

*** SAMPLE SIZE SUMMERY ***

TO CHRISTO INTUINE OF END SAI IN HIGH MEN

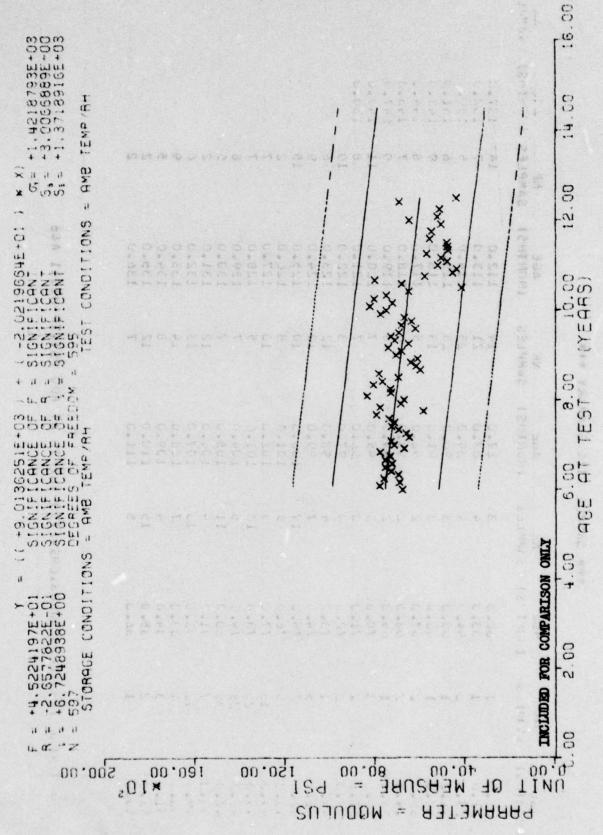
AND BRIDGE

SAMPLES	1	•	.1	••	•	٠,	1	7	1	•															1
(Contras)	137.8	133.0	139.0	141.3	143.3	1+4.0	143.3	147.3	0.541	سوردز															
SAMPLES	41	1	2	9	6	8	×	6	11	8	10	9	6	15		1	7	ထ	8	2	3	o	2	2	2
AGE (MONTHS)	112.0	113.0	114.0	115.0	116.0	117.0	118.0	×119.0	120.0	121.0	122.0	123.0	124.0	175.0	176.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0
SAMPLES	14	21	57	67	13	× 5 ×	9	8	1	7	3	77	27	01	æ	01	5	7	7	12	13	14	8	12	7
ALC (MLNTHS)	67.0	83.0	85.0	90.0	91.0	0.76	93.0	94.0	65.0	54.0	97.0	68.9	0.66	100.0	0.101	102.0	103.0	104.0	105.0	0.301	107.0	104.0	139.0	110.0	0.111
AH. S.YMPLES	3	1		3		7	71	7		d	•	4	7	1.1	100	7	10	٠,	11	+	17		4	15	5
CANTER (S)	0.00	33.3	54.0	U.5.J	0.00	57.0	63.3	6.4.3	70.0	71.3	12.3	13.0	14.0	75.0	76.0	17.0	78.3	14.0	E.J. J	31.)	12.0	33.3	34.0	35.0	36.0
Denkon so	•	1		-	-	7	7	1	٠,	. 7	-1		.0			15	7.7	3)	3).		71		7	7	1
(441F2)	Dr.	0.0%	25.0	31.0	37.0	33.5.1	7.5.0	20.00	7.00	37.3	10.0	4.3.00	4.00	2.5		4.4.		4.4.4.1	41.0		A	, , , ,	11.3	52.0	53.00

12 TAXLAL FLASTLE, 4000LUS, CHS=1750 IN/MIN. AT 600 PSI, TP-H1011 A&B

- 118 -

- 68 -



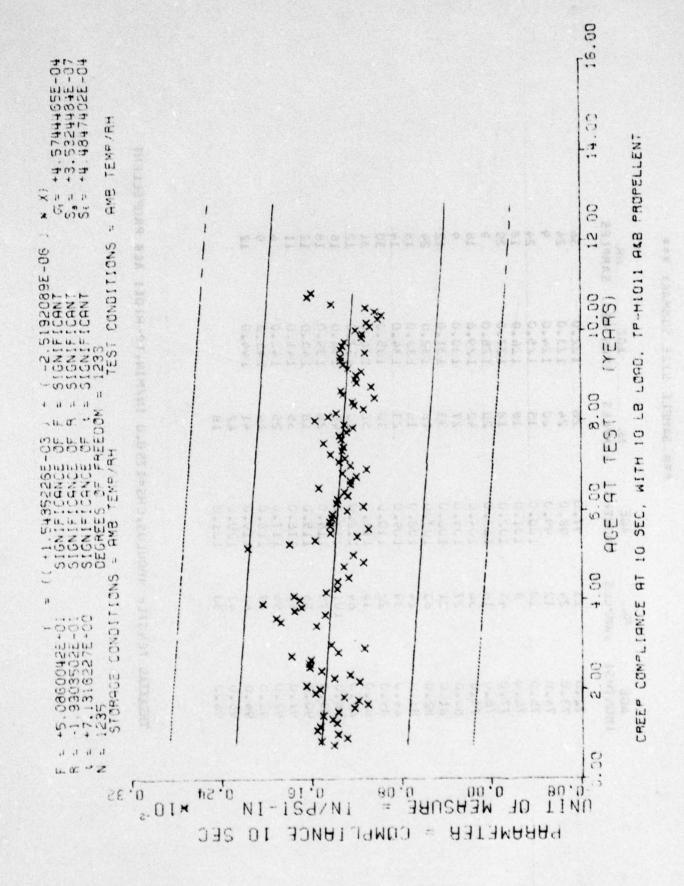
TRIBXIAL TENSILE, MODULUS, CHS=1750 IN/MIN 97 600 PSI, TP-HIDII 948

Figure 25A

*** SAMPLE SIZE SUMMARY ***

											1			. 1												
NR	SAMPLES	38	54	6	24	81	53	6	18	o	12	54	.18	41	30	31	12	91	81	77	=	•	6	77		
AGE	(MONTHS)	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	145.0	143.0	144.0		
2	SAMPLES	26	54	97	15	81	81	707	4.5	27	.33	18	. 91	23	30	52	.20	46	56	18	35	25	91	41	42	81
AGE	(MONTHS)	97.0	98.0	99.0	100.0	101.0	102.0	1.13.0	134.0	135.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	171.0
ź	SAMPLES	21	24	71	51	6	45	P1	36	27	77	63	4.7	39	77	P1	. 69 .	101	75	63	çç	96	64	0.9	45	33
AGE	(MONTHS)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	91.0	82.0	85.0	64.0	35.0	80.0	67.0	88.0	0.69	0.06	0.16	92.0	93.0	0.46	0.36	0.96

TRIAXIAL TENSILE MODULUS, CHS=1750.0 IN/MIN, TP-HI011 AEB PROPELLENT

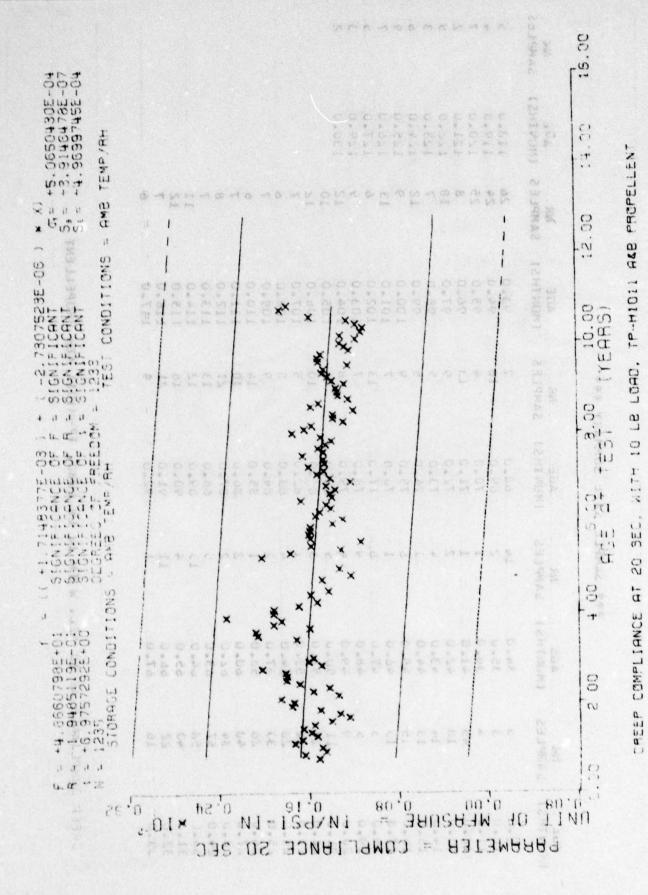


*** SAMPLE SIZE SUMMARY ***

Manue 31

AGE	Nik	AUE	æ	AGE	NR	AGE	Z	46.E	¥
(HUNTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLES
6.0	ş	34.0	14	63.0	7 7	93.0	26	113.0	\$
10.0	3	35.0	2	0.69	18	0.46	54	0.611	•
0.11	*	36.0	1	70.07	,	95.0	52	170.0	7
12.0	45	0-14		71.0	13	96.0	8	121.0	2
15.0	10	45.0	2	72.0	6	97.0	81	1.4.0	·C
14.0	*	43.0	•	73.0	2	0.86	1	143.0	. 3
15.0	15	0.44	-	74.0	5	0.66	12	124.0	•
16.0	c)	45.0	9	75.0	6	100.0	6	125.0	6
17.0	2	46.0	1	70.0	-	0.101	13	126.0	7
16.0	10	47.6	9	77.0	13	102.0	9	127.0	•
19.0	\$	48.0	6	78.0	7	103.0	6	179.0	3
20.02	6	0.65	*	79.0	8	104.0	12	130.0	2
21.0	× 11 ×	50.0	. 5	0.03	8	105.0	91		
0.77	11	51.0	3	81.0	* 01 × ×	100.0	1,5		
23.0	11	53.0	•	82.0		107.0	7		
7.47	20	54.0	*	83.0		108.0	•		
75.0	30	57.0	.7	84.0	6	109.0	7		
26.0	526	54.0		85.0	14	110.0	•		
0.72	24	0.09	2	86.0	01	111.0	1		1
C.87	34	. 0.79	2	87.0	17	112.0	80		
0.67	25	53.0	5	68.0	13	113.0	7		
June.	54	0.4.0	. 15	89.0	12	114.0	==	1	
31.0	3	65.0	4	0.05	91	115.0	12		
32.0	22	9999	11	0.16	77	0.911	7		
33.0	97	67.0	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	92.0	6	117.0	9		

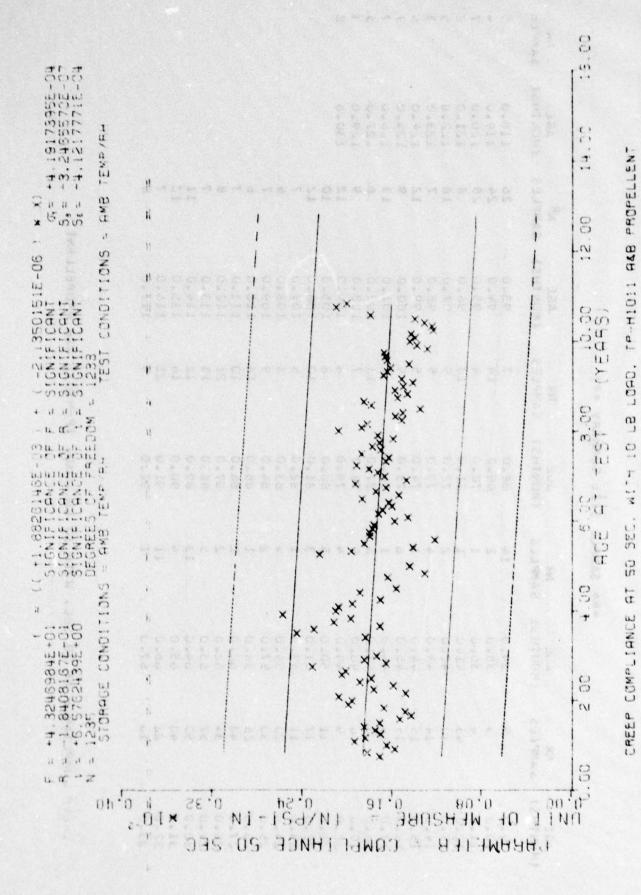
CKFFP CUMPLIANCE AT 10 SEC. WITH 10 LB LOAD. TP-HIOII AEB PROPELLENT



*** SAMPLE SIZE SUMMARY ***

	7 93.0 18 94.0 4 95.0		
969	842		7 0.89 7
96	4 =	0.0	
96	~		1 70.0 4
0.1	:	1.0	1 11.0
	5	2.0 9	2 72.0 9
96	2	3.0	4 73.0 5
66	5	6.0	1 74.0 5
100	6	6 0.5	6 75.0 9
101	1	7 0.0	1 76.0 7
102	13	7.0 13	6 77.0 13
103	7	8.0	7 0.87 6
104	8	8 0.6	4 79.0
105	8		
106	2		
	31		
	80	中国 中国 医中国 医甲基	中国 中国 医中国 医甲基
	6		
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1	-		
	77		
	=		
114	77		
115.0	16		
116.0	77		
113	6	2.0	1 92.0

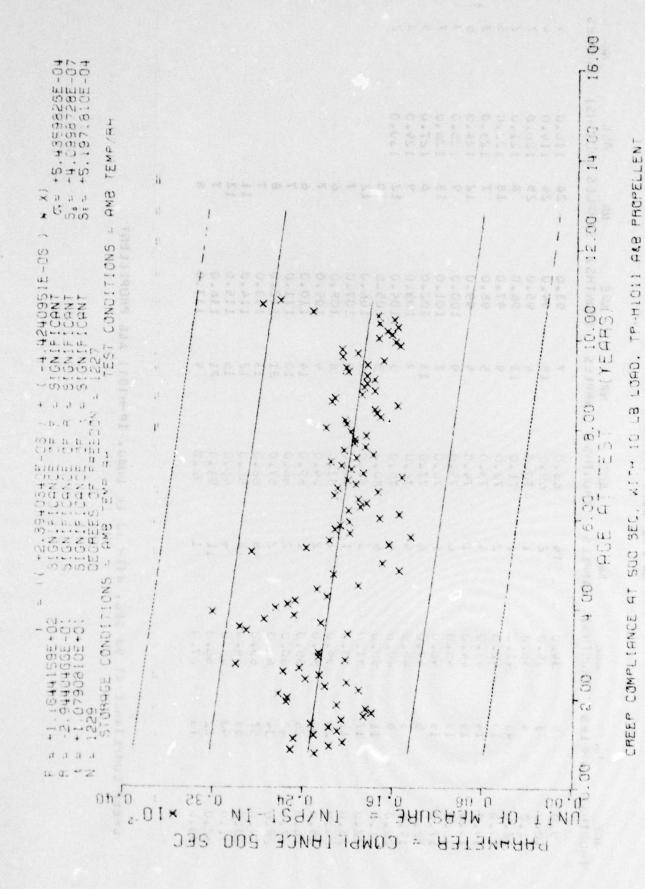
CKEEP CUMPLIANCE AT 20 SEC, WITH 10 LB LOAD, TP-HI011 A&B PROPELLENT



*** SAMPLE SIZE SUMMARY ***

SAMPLES	5	,	1	7	'n	3	•	,	7	•	3	2													1
AGE (PICNTHS)	116.0	119.0	120.0	141.0	122.0	123.0	124.0	1.25.0	126.0	147.0	129.0	150.0													
SAMPLES	56	54	25	89	18	7	77	6	13	9	6	12	2	71	7	9	7	•	7	œ	7	11	12	7	9
AGE (MONTHS)	93.0	94.0	95.0	0.96	97.0	0.86	99.0	0.001	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0
SAMPLES	7	18	*	13	6	5	3	6	7	13	~	8	60	10	5	a;		14	07	21	13	71	16	21	0
AGE (MUNTHS)	66.0	69.0	70.0	71.0	72.0	73.0	74.0	75.0	70.0	77.0	76.0	0.67	30.0	81.0	62.3	33.0	0.40	85.0	00.00	87.0	38.0	89.0	50.05	0.16	0.76
SAMPLES	14	2	1	1	2	4	-	3	1	ġ	5	4	,	•	1	4	2 ×	1	2	7	5	13	*	11	-
MGE (MONTHS)	34.0	35.0	36.0	41.0	44.0	43.0	44.0	45.0	46.0	47.0	6.84	. 0.64	50.0	51.0	53.0	34.0	57.0	58.3	0.00	6.79	63.0	64.9	0.50	66.0	67.3
INS JAMPLES	,	,	*	4	2	14	4	ij	15	5	•	6	11	11	.11	77	30	250	4.3	34	51	53	54	77	13
AGE (MONTHS)	9.0	10.0	11.0	12.0	15.0	14.0	15.0	10.0	17.0	12.0	15.0	20.0	0.12	65.77	23.0	0.47	25.0	26.0	0.73	79.0	29.0	30.0	91.0	32.0	33.0

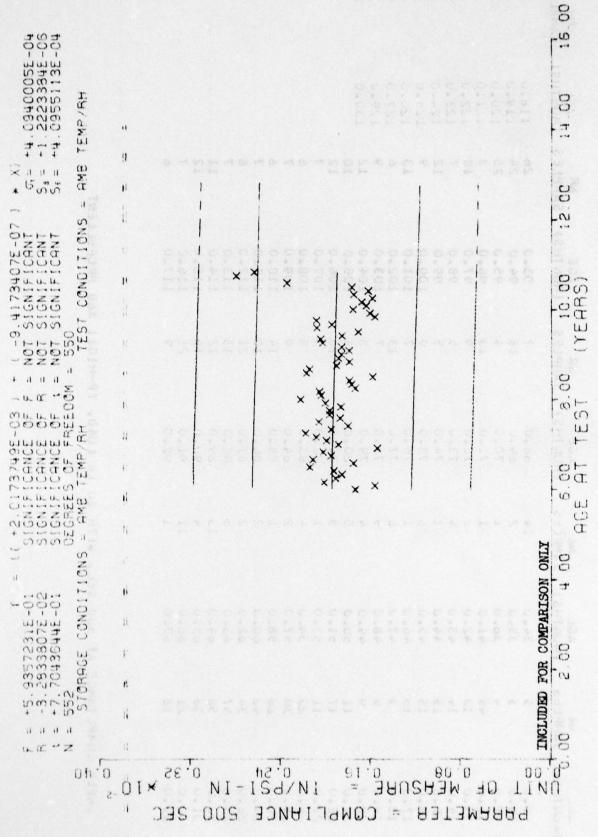
CREEP CUMPLIANCE AT 50 SEC, MITH 10 Lr LUAU, TP-H1011 AEB PROPELLENT



SAMPLE SIZE SUMMARY

Nr	SAMPLES	Ċ	.+	1	. 7	•	7		6	,	2	3	7	1												
AGE	(AUNTHS)	118.0	0.611	120.0	121.0	122.0	123.0	124.0	1,500	170.0	127.0	129.0	130.0													
Ž	SAMPLES	56	24	25	. 8	18	7	12	6	13	9	•	17	01	12	1	9	7	9	7	89	7	11	12	1	9
AGE	(MONTHS)	93.0	0.46	65.0	0.96	97.0	0.86	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0
NR	SAMPLES	7	18	+	13	6	•	2	6	1	13	7	80	m	01	5	90	6	14	07	21	13	77	16	21	o
AGE	(MUNTHS)	0.89	0.59	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	91.0	82.0	83.0	0.40	85.0	86.0	87.0	88.0	0.63	0.06	0.16	92.0
¥	SAMPLES	14	2	-	1	7	4	-	9	1	3	,	*	5	3	1	+	2	1	- 2	2	2	13	4	11	7
AGE	(MUNTHS)	34.0	35.0	30.0	41.0	45.0	43.0	44.0	45.0	46.3	47.3	48.0	6.65	50.0	51.0	53.0	14.0	57.0	58.0	60.0	62.0	63.0	64.3	0.5.0	0.79	0.70
X.	SAMPLES	ın	٦	*	45	3	14	51	15	12	·c	9	7	11	7,1	11	77	30	07	3,	34	15	53	29	2.1	13
461	(MUNTHS)	2.6	10.0	11.0	12.0	13.0	14.0	15.0	10.01	17.0	13.0	0.67	20.0	21.0	22.0	23.0	0.47	0.67	26.0	27.0	9.77	29.0	30.0	31.0	32.0	33.0

CREEP CUMPLIANCE AT 500 SEC. WITH TO LB LOAD. TP-HIDLI AEB PROPELLENT

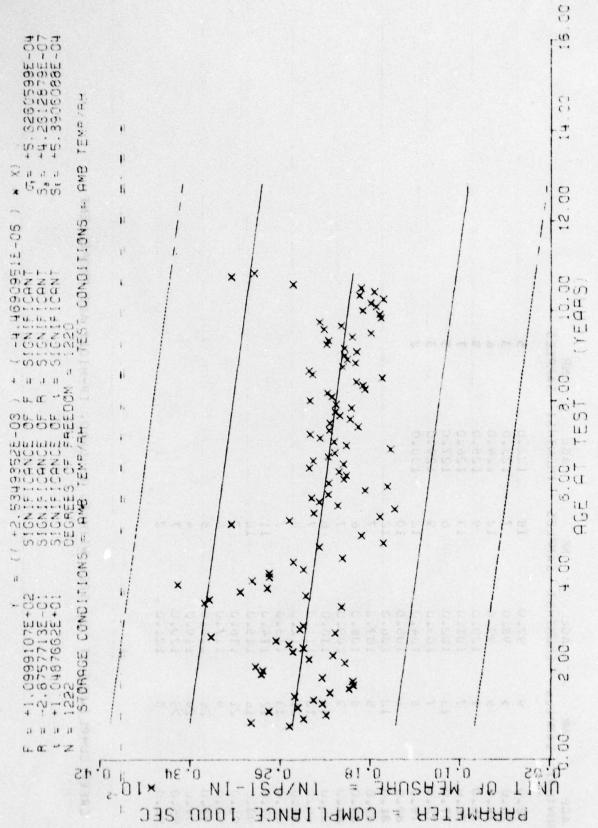


SUG SEC. WITH 10 LB LOAD, TP-HIG11 ALB PROPELLENT 18 CREEP COMPLIANCE

*** SAMPLE SIZE SUMMARY ***

NR SAMPLES	5	3	9	0	7	5	3	7					The Charles of the Control of the Co												
AGE (MONTHS)	122.0	123.0	124.0	125.0	126.0	127.0	129.0	130.0		× ×															1
SAMPLES	18	1	71	6	13	9	6	71	01		7	9	1	9	1 × ×	8	1	11	71	7	9	5	4	7	2
AGE (MUNTHS)	97.0	98.0	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	0.011	111.0	112.0	113.0	114.0	115.0	116.0	117.0	1.8.0	119.0	120.0	121.0
NR SAMPLES	,	ć	,	5		13	,	80	70	111	5	80	6	14	01	21-	13	12	10	21	6	- 25	24	55	3
AGE (MUNTHS)	72.0	73.0	74.0	75.0	76.0	0.11	78.0	79.0	90.08	31.0	82.0	43.0	84.0	85.0	0.90	87.0	3.86	39.0	90.0	0.16	92.0	93.0	94.0	95.0	0.00

CREEP COMPLIANCE AT 500 SEC. WITH 10 LB LOAD. TP-HIOII A&B PROPELLENT



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SAMPLE SIZE SUMMARY

SAMPLES	٠,	,	1	,7	·c	3	. 9		1	5	3	7													
AGE (HOMTHS)	118.0	119.0	120.0	121.0	122.0	123.0	124.0	145.0	126.0	127.0	129.0	150.0													
SAMPLES	77	24	25	8	18	7	-12	6	13	9	6	12	01	12	7	9	7	9	-1	00	1	1	12	7	9
AGE (MONTHS)	93.0	0.46	95.0	96.0	97.0	0.86	0.66	100.0	101.0	102.0	103.0	104.0	105.0	136.0	107.0	0.801	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0
NR SAMPLES		18	4	13	6	5	5	6	7	13	2 2 2 3	9	8	10	5	B	6	14	9	21	13	12	16	21	6
AGE (MONTHS)	68.0	0.69	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	70.0	79.0	80.0	61.0	82.0	83.0	84.0	95.0	36.0	37.0	38.0	89.0	90.0	61.0	95.0
NK SAMPLES	14	7	1	7	2	4	1	9	1	ى	5	+	\$	3	1	* · · · · · · · · · · · · · · · · · · ·	2	-	7	2	2	13	4	111	•
AGE (MUNT 15)	34.0	35.0	36.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	6.84	0.64	50.0	51.0	53.C	54.0	57.0	58.0	0.09	05.0	65.0	54.0	0.50	0.09	0.70
nik SAMPLES	'n	•	•	45	3	51	12	ci	15	2	ç	,	11	11	11	23	30	97	40	3;	54	53	3.	17	13
AGE (MUNTHS)	9.0	10.0	0.11	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	56.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	22.0	6.5.	33.0	31.0	32.0	33.0

URLEP CUMPLIANCE AT 1000 SEC. WITH 10 LB LOAD. TP-H1011 AEB PRUPELLENT

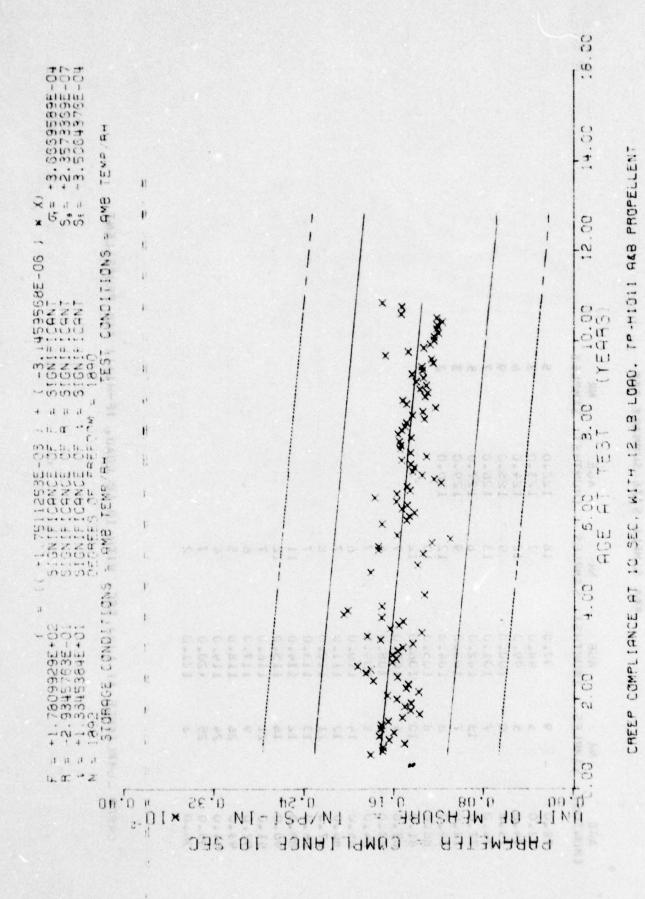
1000 SEC. WITH 10 LB LOAD, TP-HID11 A&B PROPELLENT Figure 30A

CREEP COMPLIANCE AT 1000 SEC.

*** SAMPLE SIZE SUMMARY ***

SAMPLES	\$	3	•	6	1	2		7					1 1 1			The same of the sa			The second of the second			*			
AGE (MONTHS)	122.0	123.0	124.0	125.0	126.0	127.0	129.0	130.0								and the second second second									1
SAMPLES	91	1	12	6	13	•	6	15	01	- 1	1	•	1	9	7	89	1	==	77	7	9	2	,		7
AGE (MONTHS)	97.0	98.0	99.3	100.0	101.0	105.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	115.0	1,20.0	121.0
NR	•	1	5	6	7	21	7	ອ	20	- 01	•	8	c	*	CI	- 17	13	71	91	21	5	56	5,4	52	יי
AGE (MONTHS)	72.0	73.0	74.0	75.0	70.0	77.0	78.0	79.0	80.0	81.0	82.0	83.0	64.0	95.0	86.0	0.70	88.0	89.0	0.06	0.16	0.26	0.66	0.46	95.0	0.90

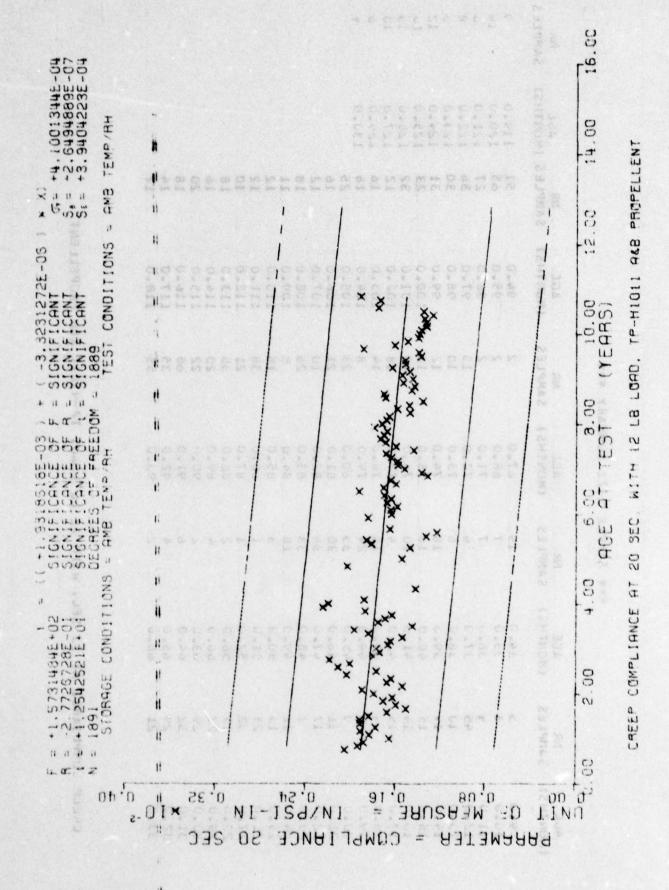
CREEP CUMPLIANCE AT 1000 SEC. WITH 10 LB LOAD. TP-H1011 A&B PROPELLENT



*** SAMPLE SIZE SUMMARY ***

AUL	IR	AGE	NR	AGE	NR	AGE	NR	AGE	民
MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLES ((MUNTHS)	SAMPLES
6.5	•	34.0	19	67.0	2	0.46	51	119.0	6
10.0	3	35.0	7	68.0	2	95.0	99	120.0	14
11.0	,	56.0	7	71.0	7	0.96	27	121.0	,
12.0	45	37.0	,	72.0	15	97.0	36	122.0	æ
11.0	3	38.0	9	73.0	01	0.86	30	123.0	٥
14.0	*1	59.0	81	74.0	71	0.66	31	124.0	12
15.0	15	0.04	10	75.0	12	10000	- 23	125.0	11
10.01	14	41.0	07	76.0	01	101.0	32	126.0	::
17.0	. 15	44.0	4	77.0	18	102.0	12	127.0	01
18.0	•	43.0	91	76.0	41	103.0	91	129.0	¢
19.0	9	44.0	24	79.0	80	104.0	91	130.0	*
20.0	6	45.0	33	0.00	23	105.0	25		
21.0	11	40.0	30	81.0	77	106.0	91		
0.77	11	41.0	38	82.0	21	107.0	17		
23.0	10	48.0	33	83.0	56	1.08.0	18		
74.0	11	68.0	18	84.0	80	109.0	11		
25.0	1	50.0		0.58	18	110.0	17		
24.0	23	51.0	1	0.90	38	111.0	12		
27.0	32	52.0	1	87.0	21	112.0	9		
28.0	13	56.0	2	38.0	38	113.0	81		
29.0	12	60.0	+	0.68	70	114.0	91		
30.0	67	63.0	7	90.06	22	115.0	20	1	
31.0	35	64.0	9	0.16	89	116.0	18		
32.0	67	65.0	,	92.0	35	117.0	14		
23.0	71			03 0	55	0 01	17		

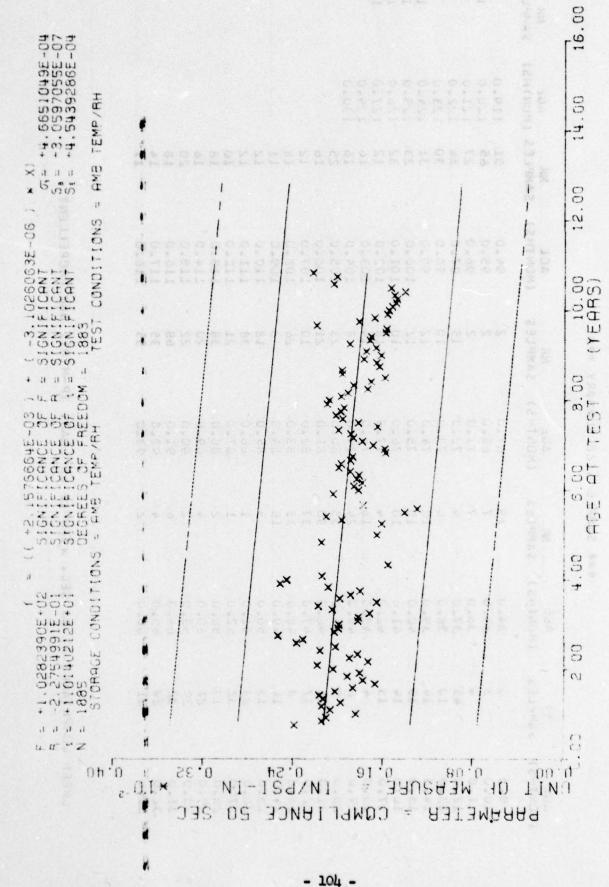
CREEP JUMPLIANCE AT 13 SEC. WITH 12 LE LOAD. TP-HIGHT AEB PROPELLENT



*** SAMPLE SIZE SUMMARY ***

N.	SAMPLES	7	14	0	70	0	71	15	רו	1.3	3	•														
466	SAMPLES (MUNTHS)	119.0	120.0	121.0	175.0	123.0	124.0	1.25.0	170.0	127.0	129.0	130.0														
MR	SAMPLES	51	99	27	36	30	31	23	32	17	91	91	52	16	71	18	11	71	71	91	18	16	20	18	14	11
AGE	(MONTHS)	0.46	95.0	0.96	97.0	0.86	0.66	10000	101.0	102.0	103.0	104.0	105.0	106.0	107.0	106.0	1.09.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0
MR	SAMPLES	2	2	2	15	10	17	12	10	81	14	8	23	77	01	55	70	18	38	77	38	20	22	69	35	55
AGE	(MONTHS)	67.0	63.0	74.0	72.0	73.0	74.0	75.0	76.0	77.0	76.0	0.61	80.0	81.0	82.0	83.0	84.0	85.0	0.93	67.0	88.0	0.65	0.06	91.0	92.0	93.0
æ	SAMPLES	- 51	7		*	3	18	10	10	4	16	54	33	30	37	33	18	63	1	1	2	4	2	٥	4	2
AGE	(MUNTHS)	34.0	35.0	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.3	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	58.0	0.00	55.0	64.0	65.0	66.0
ž	SAMPLES	5	ſ	,	64	10	**	15	14	15	,	•	6	11	11	9	11	15	63	35	61	17	29	32	53	-21
MUE	(MUNTHS)	6.0	10.0	11.0	12.0	13.0	14.0	15.0	10.0	17.0	13.0	19.0	20.0	21.0	0.77	23.0	24.0	0.57	76.0	27.0	28.0	0.67	50.0	31.0	34.0	33.0

CREEF LUMPLIANCE AT 23 SEC, WITH 12 LB LOAD, TP-HIOII A&B PROPELLENT

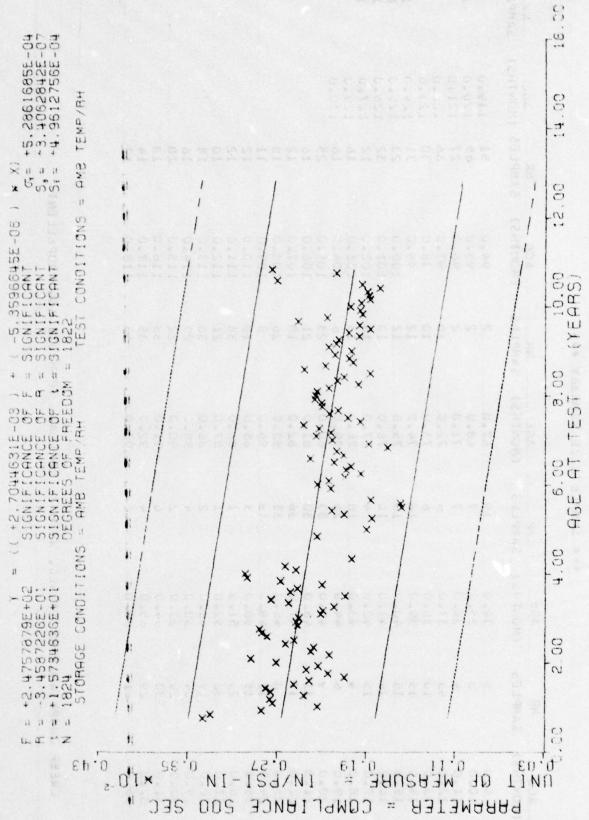


LOGD, TP-HIGH A&B PROPELLENT WITH 12 LB SEC. 20 4 COMPLIANCE CAEEP

*** SAMPLE SIZE SUMMARY ***

AGE	χ. Υ	AGE	NE	AGE	NR	AGE	MR	464	NR
MUNTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	SAMPLES (MONTHS)	SAMPLES
9.0	5	34.0	19	67.0	2	0.46	51	119.0	
10.0	•	35.0	7	68.0	2	95.0	99	120.0	14
0.11	4	36.0	7	71.0	2	0.96	27	121.0	
12.0	4.2	37.0	,	72.0	15	97.0	36	124.0	
13.0	3	38.0	9	73.0	10	0.86	30	123.0	, ,
0.41	15	35.0	18	74.0	17	0.66	31	124.0	77
15.0	15	40.0	10	75.0	12	0.001	23	125.0	12
16.0	+1	41.0	10	76.0	01	0.101	32	126.0	רו
17.0	15	45.0	4	17.0	13	102.0	12	147.0	12
18.0	*	43.0	18	78.0	13	103.0	91	129-0	9
0.61	9	44.0	24	79.0	٥	104.0	91	130.0	
20.0		45.0	33	60.0	23	105.0	25		
0.17	7	46.0	30	81.0	17	106.0	91		
0.77	11	47.0	30	84.0	01	107.0	12		
3.0	7	48.3	33	83.0	97	108.0	18		
0.42	11	49.0	18	84.0	60	109.0	77		the same of the same of the same
5.0	15	50.0	3	85.0	18	110.0	12		
0.97	23	51.0	1	86.0	38	111.0	12		
27.0	75	52.0	1	87.0	77	112.0	10	-	
28.0	19	58.0	2	98.0	38	113.0	18		
0.67	47	60.0	4	89.0	50	114.0	16		
30.0	. 29	63.0	- 2	90.0		115.0	20		-
0.18	33	0.40	9	91.0	96	116.0	18		
97.0	67	65.0	4	92.0	35	117.0	14		
33.0	- 17	0.00	7	93.0	55	118.0	11		

CREEP CUMPLIANCE AT 50 SEC. AITH 12 LB LOAD. TP-HIGH A&B PROPELLENT



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CREEP

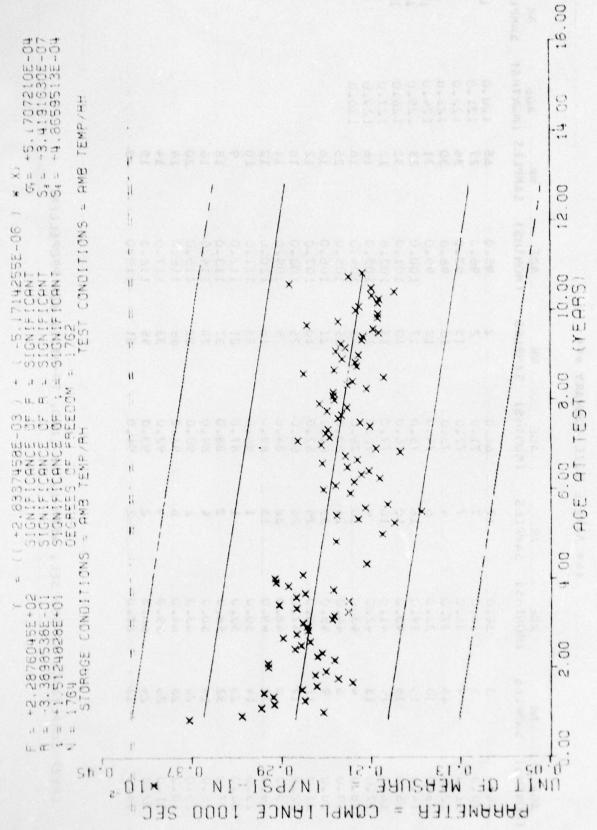
948 PROPELLENT

TP-H1011

** SAMPLE SIZE SUMMARY ***

AGE	X	AGE	AR	AGE	NR	ACE	N.S.	AGE	NK
(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLE
9.00	ż	34.0	17	68.0	2	95.0	99	120.0	4
10.0	3	35.0	7	71.0	7	6.96	27	121.0	5
11.0	4	36.0	7	72.0	15	97.0	36	122.0	m
.12.0	45	37.0	4	73.0	10	98.0	30	123.0	0
13.0	10	38.0	٥	14.0	17	0.66	31	124.0	12
14.0	15	39.0	16	75.0	12	100.0	23	125.0	91
15.0	15	40.0	10	76.0	10	101.0	32	126.0	17
16.0	14	41.0	10	17.0	13	102.0	12	127.0	8
17.0	15	42.0	,	78.0	12	103.0	91	129.0	+
18.0	4	43.0	1.6	79.0	89	104.0	16	150.0	•
0.61	0	44.0	54	83.0	23	105.0	25		
20.0	6	45.0	33	81.0	17	106.0	91		
21.0	11	46.0	. 29	82.0	10	107.0	12		
22.0	1.7	47.0	20	83.0	26	108.0	18		
0.57	27	48.0	28	84.0	8	109.0	11		
24.0		0.64	15	85.0	18	110.0	-12	and the same of th	
25.0	14	50.0	1	86.0	38	1111.0	01		
20.0	23	52.0	1	87.0	77	112.0	6		
27.0	32	58.0	2	88.0	37	113.0	18		
28.0	19	6000	4	0.58	20	114.0	91		
29.0	70	03.3	2	0.06	22	115.0	20		
50.0	. 23	64.0	9	91.0	63	116.0	14		
31.0	20	65.0	4	92.0	33	117.0	14		
32.0	74	66.0	2	93.0	55	118.0	15		
33.0	14	67.0	-2	94.0	51	119.0	6	The second secon	

CREEP CUMPLIANCE AT 500 SEC. MITH 12 LB LOAD, TP-HIOII A&B PROPELLENT



AKB PROPELLENT TP-H1011 LOAD, an ü I I 1000 SEC, 4 CREEP COMPLIANCE

*** SAMPLE SIZE SUMMARY ***

ALCE	E	Aue	X	Aist	NK	AUE	N. N.	AGE	*
3	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLES
	1	35.0	7	72.0		97.0	34	122.0	9
	*	36.0	7	73.0	10	0.96	30	123.0	.0
	45	57.0	,	74.0	17	0.66	57	124.0	77
	OT.	38.3	4	75.0	17	100.0	23	145.0	15
	14	39.0	18	76.0	01	101.0	32	176.0	13
	ij	40.0	21	77.0	87	102.0	112	127.0	1
	14	41.0	97	78.0	12	103.0	91	129.0	4
	q	44.0	4	79.0	60	104.0	91	130.0	2
	4	43.0	1.1	80.0	23	105.0	25		
-	,	44.0	22	81.0	77	106.0	16		
20.0	6	45.0	33	82.0	10	107.0	17		
	11	46.0	67	63.0	750	108.0	18		
-	11	47.0	57	84.0	20	109.0	11		
	5	48.0	57	85.0	18	110.0	12		
	11	64.0	15	66.0	38	111.0	01		
,	11	52.0	7	37.0	21	112.0	o		
	23	58.0	2	98.0	33	113.0	18		
-	35	0000	4	0.63	20	114.0	16		
***	19	03.0	.7	90.0	22	115.0	20		
	13	0.40	3	91.0	68	116.0	14		
-	26	0.59	4	92.0	33	117.0	14		
-	77	وموري	7	93.0	54	118.0	17		
	14	67.0	7	0.46	4.1	119.0	6		
_	11	0.80	2	95.0	99	120.0	14		
-	15	71.0	2	96.0	25	121.0	9		

CREEP COMPLIANCE AT 1000 SEC. WITH 12 LB LOAD. TP-HIOII AEB PROPELLENT

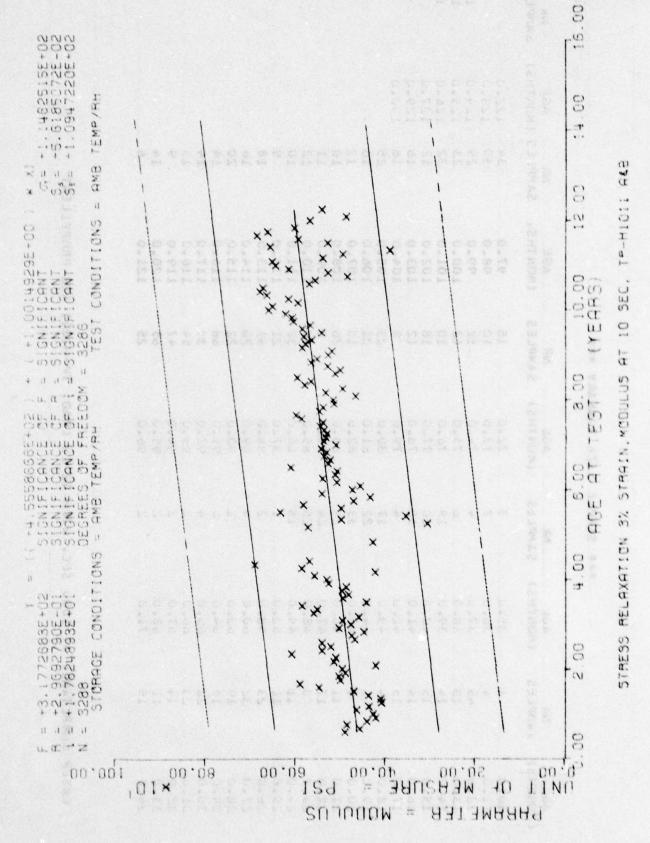
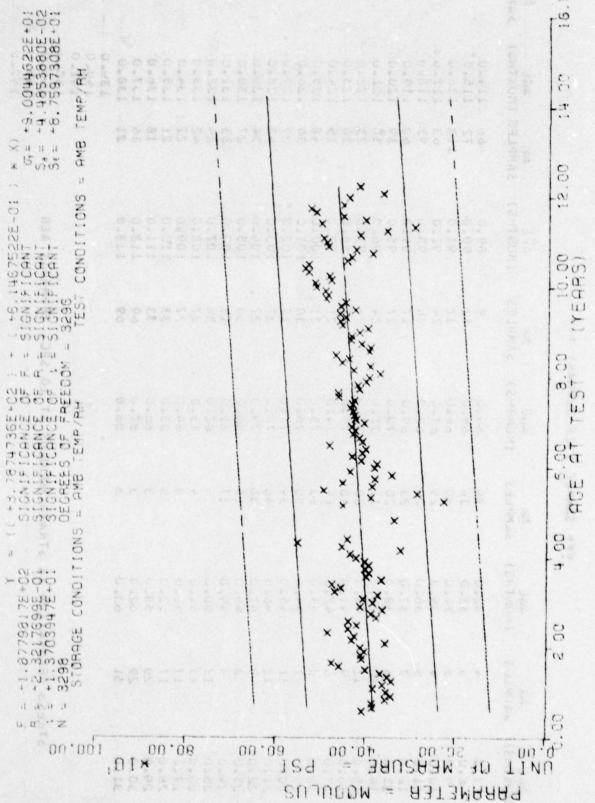


Figure 36

*** SAMPLE SIZE SUMMARY ***

ALL	INK	AGE	2	AGE	NR	AUE	¥	AGE	15.
(MUNTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	SAMPLES (MUNTHS)	SAMPLES
7.0	•	34.0	35	0.40	5	0.68	99	116.0	33
0.3	•	33.0	36	65.0	12	0.06	72	115.0	35
0.0	•	34.0	30	0.99	12	0.16	113	116.0	7
10.01	٠	35.0	67	0.70	54	92.0	63	117.0	53
11.0	5	36.0	53	68.0	9	93.0	93	116.0	118
12.0	1	37.0	23	69.0	11	94.0	09	0.611	33
13.0	9	38.3	20	70.07	17	95.0	39	120.0	36
14.0	10	39.0.	12	71.0	24	0.96	30	121.0	4
15.0	12	40.0	78	72.0	2+	97.0	23	122.0	• •
10.0	5	0.14	38	73.0	- 71	98.0	30	123.0	7
17.0	3	42.0	43	74.0	21	0.66	15	124.0	42
13.0	73	43.0	63	75.0	21	100.0	48	125.0	15
19.0	1	44.0	50	76.0	30	101.0	36	1.00.0	44
20.02	11	45.0	35	77.0	15	102.0	27	127.0	7
21.0	77	46.0	34,	78.0	7.7	103.0	43	128.0	13
22.0	6	47.0	. 36	73.0	27	104.0	34	129.0	30
73.0	9	48.0	15	80.0	00	105.0	27	130.0	77
24.0	2	6.64	1.7	0.15	81	106.0	33	151.0	17
75.0	21	50.0	us.	82.0	36	107.0	24	132.0	2.8
0.07	11	51.0	4	63.0	27	108.0	42	133.0	0
0.17	11	0.76		84.0	27	109.0	27	1,34.0	5
28.0	11	53.0	2	03.0	33	110.0	21	135.0	15
29.0	67	58.3	3	86.0	33	0.111	81	136.0	7
30.0	67	62.0	3	87.0	69	112.0	36	137.0	47
31.0	51	63.0	3	88.0	- 69	113.0	21	138.0	9
								139.0	17
								140.0	6
1								141.0	71
								14200	5
5	STAESS RELAXATION 3%		STRAIN, MODULUS	AT 10	SEC. TP-H1011	011 AEB		144.0	3
				1 1 1	1			145.0	m
								147.0	9

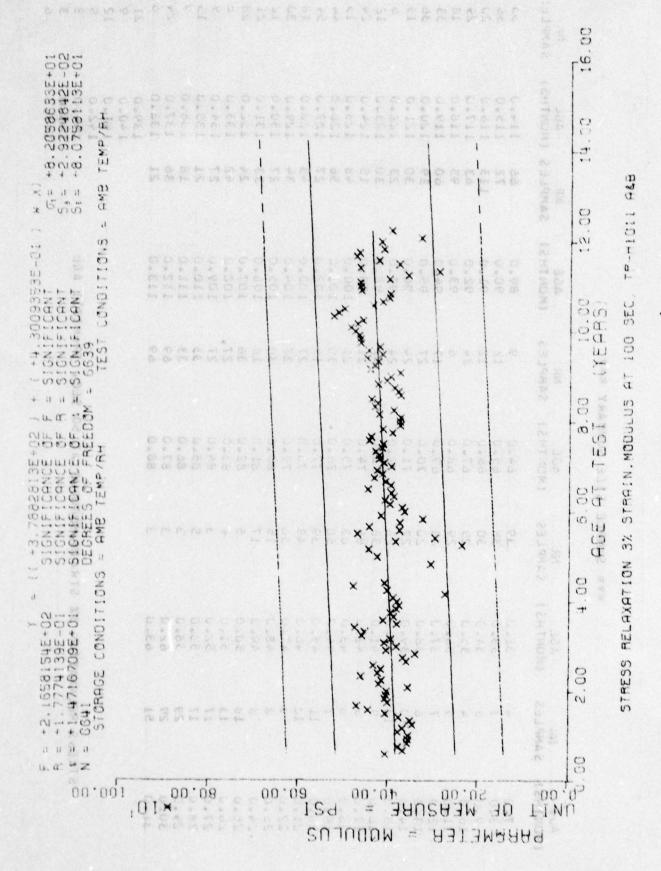


TP-H1011 948 08 D STRAIN. MODULUS RELAXATION 3% STAESS

8

*** SAMPLE SIZE SUMMARY ***

AGE	MR	AGE	O.	AGE	MR.	AGE	NR		¥
(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLES
7.0	•	32.0	39	0.49	6	89.0	99	114.0	, i
3.0	3	33.0	38	65.0	12	0.06	72	115.0	36
0.6	5	34.0	30	0.99	12	91.0	113	0.911	20
10.0	,	35.0	29	67.0	57	92.0	63	117.0	67
11.0	5	36.0	52	0.69	9	93.0	93	0.811	13
12.0	1	37.0	23	0.69	17	6.46	09	119.0	33
13.0	0	38.0	77	Z0.07	7.7	95.0	39	120.0	36
14.0	or.	39.0	22	71.0	57	0.96	30	121.0	15
.15.0	12	40.0	28	72.0	54	97.0	23	177.0	9
16.0	6	41.0	3.6	73.0	21	0.36	30	123.0	12
17.0	•	42.0	94	74.0	12	0.66	15	124.0	54
10.0	ני	43.0	63	75.0	21	100.0	84	1.25.0	1
0.61	1	44.0	50	75.0	30	101.0	36	126.0	1
20.0	11	45.0	39	77.0	15	102.0	27	127.0	25
21.0	71	46.0	48	70.0	7.2	103.0	43	128.0	14
22.0	6	47.0	36	79.0	27	104.0	34	178.0	33
25.0	9	48.0	51	0.08	30	105.0	27	130.0	71
24.0	77	49.0	17	81.0	81	106.0	33	131.0	21
25.0	13	50.0	2	82.0	36	107.0	57	136.0	- 23
60.07	13	51.0	,	83.0	27	0.301	42	133.0	۵
27.0	11	52.0	•	84.0	27	109.0	27	154.0	7
28.0	11	53.0	5	85.0	33	110.0	21	135.0	15
25.0	23	58.0	.3	86.0	33	111.0	1.6	0.961	C'
30.0	67.	62.0	3	87.0	69	112.0	36	137.0	5.4
54.0	- 51	63.0	3	88.0	69	113.0	- 21	138.0	9
								139.0	- 21
								140.0	6
The same of			100 mm - 100 mm	The second second	1200	THE PERSON	と とは と と と と と と と と と と と と と と と と と	0-141	12
								145.0	5
3	CTOCCC DELAVATION	3.4	STLAN MODULI IIS	OF TA SILIE	CEC. FOLUTOII	1011 454			•



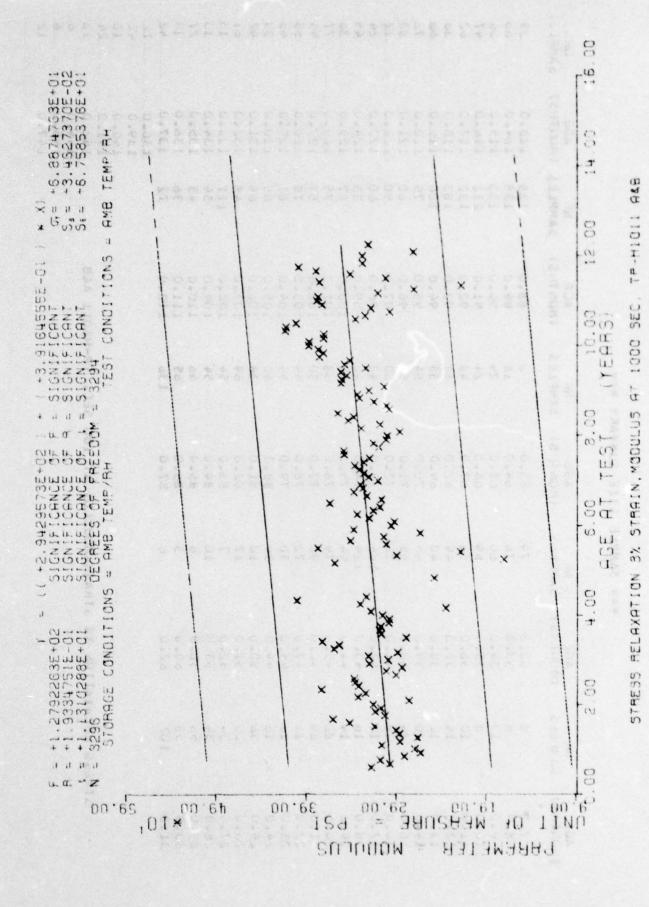
*** SAMPLE SIZE SUMMARY ***

N.	AGE	**	AGE	**	ALE		AUE	1
SAMFLES	(MUMINS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(AUNTHS)	SAMPLE
το.	32.0	61	63.0	٥	88.0	135	113.0	39
9	33.0	16	0.49	13	0.68	135	114.0	9
27	34.0	09	65.0	2+	0.06	153	115.0	3
23	35.0	55	0.00	24	0.16	212	0.011	14
CT	36.0	56	67.0	46	92.0	132	117.0	62
1,4	37.0	45	66.0	12	93.0	183	118.0	20
77	38.0	0.4	6.50	35	0.46	120	0.611	99
20	39.0	45	70.0	54	95.0	75	1:0.0	71
77	40.0	55	71.0	15	0.96	09	121.0	33
9.	t+	10	72.0	50	97.0	90	1.22.0	77
12	42.€	164	73.0	42	0.86	09	123.0	24
10	43.0	124	74.0	7.4	0.66	33	174.0	4.5
1+	44.0	45	75.0	48	100.0	87	125.0	36
77	45.0	14	76.0	69	101.0	75	1.001	11
4,7	6.94	96	77.0	30	102.0	57	127.0	95
77	47.0	71	78.0	54	103.0	79	148.0	55
10	48.0	30	79.0	54	104.0	19	129.0	4
10	0.64	34	80.0	99	105.0	69	130.0	33
36	50.0	77	81.0	38	106.0	69	131.0	45
3	21.0	1.1	65.0	69	107.0	48	136.3	19
3+	54.0	7	83.0	54	108.0	111	133.0	15
34	53.0	10	84.0	54	1.09.0	54	134.0	1
20	58.0	٥	65.0	99	110.c	45	135.0	17
28	50.0		86.0	65	111.0	36	136.0	18
102	62.0	3	67.0	136	112.0	72	137.3	3
							138.0	77

STRESS RELAXATION 32 STRAIM.MUDULUS AT 100 SEC. TP-HIGHI AEB

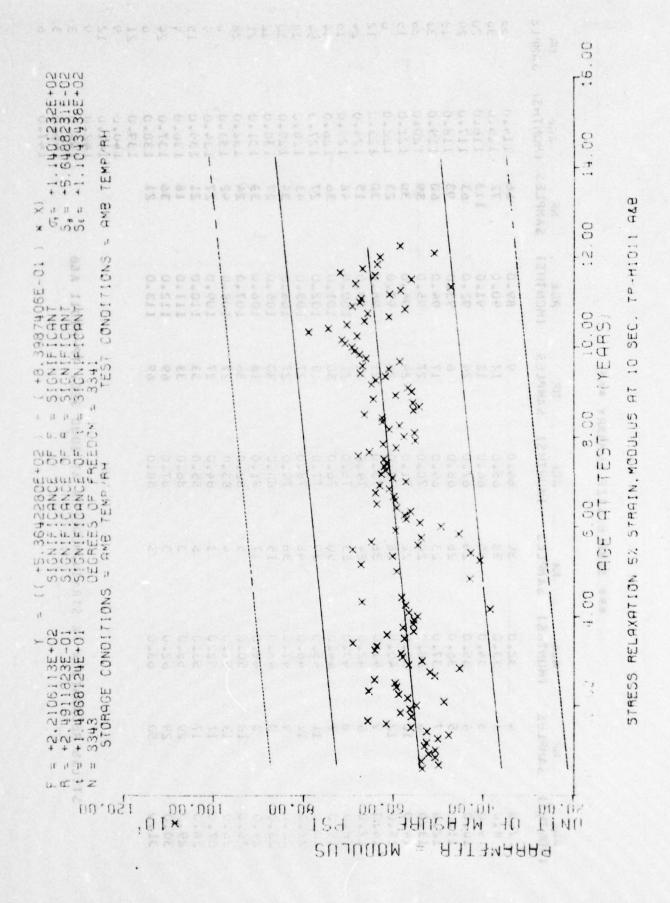
2020007

140.0



*** SAMPLE SIZE SUMMARY ***

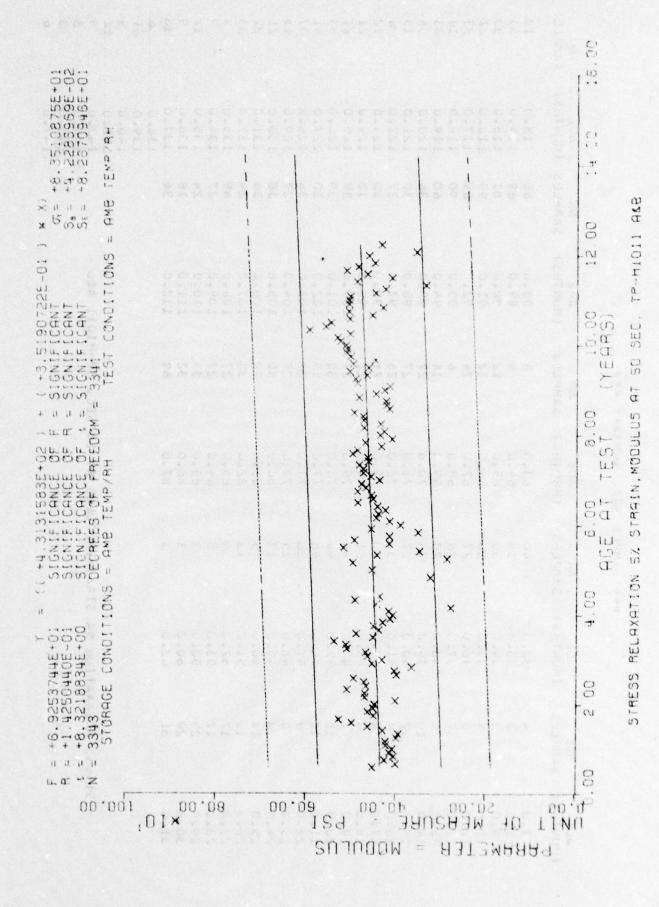
ALL	- MR	AGE	24	AGE	NP.	ACE	MR		NR
(NONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLE
1.0	+	32.0	35	0.49	5	89.0	99	114.0	44
3.6	3	33.0	36	0.50	12	0.06	72	115.0	30
7.0	٠,	34.0	30	0.99	12	91.0	113	116.0	20
10.0	+	35.0	29	67.0	24	92.0	63	117.0	29
11.0	10	36.0	28	0.89	9	93.0	93	118.0	61
14.0	1 × 30%	37.0	. 53	0.59	17	0.46	09	119.0	33
13.0	0	38.0	20	70.0	27	65.0	39	120.0	3.6
14.0	10	39.0	77	71.0	42	0.96	30	121.0	15
15.0	71	40.0	28	72.0	54	0.79	23	177.0	0
10.0	•	41.0	38	73.0	12	0-86	30	123.3	71
17.0	,	42.0	84	74.0	17	0.66	15	124.0	4.7
18.0	23	43.0	63	75.0	21	100.0	46	125.0	15
19.0	1	0.44	20	76.0	30	101.0	36	120.0	77
20.0	11	45.0	39	77.0	15	102.0	7.2	127.0	5.
21.3	77	40.0	40	78.0	27	103.0	43	128.3	13
22.0	0	47.0	36	75.0	17	104.0	34	129.0	3
73.0	63	48.0	15	80.0	30	105.0	27	130.0	71
74.0	~	0.64	11	81.0	18	106.0	33	131.0	77
25.0	16	50.0	S	82.0	30	107.0	24	134.0	20
25.0	13	51.0	1	83.0	7.2	106.0	42	133.0	.0
27.0	17	52.0	~1	0.40	27	109.0	27	134.0	•
28.0	11	53.0	5	85.0	55	1.10.0	21	135.0	15
29.0	62	58.0	3	0.00	33	111.0	81	130.0	
30.0	53	62.0	3	87.0	69	112.0	36	137.0	24
31.3	50	63.0		88.0	69	113.0	21	138.0	٥
								139.0	21
								140.0	3
	Comment of the Commen							141.0	71
								145.0	5
5.	STRESS RELAXATION 3X		TRA IN MODE	STRAIN, MUDULUS AT 1000 SEC, TP-H1011	30 SEC, TP.	-H1011 AEB		144.0	9



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*** SAMPLE SIZE SUNMARY ***

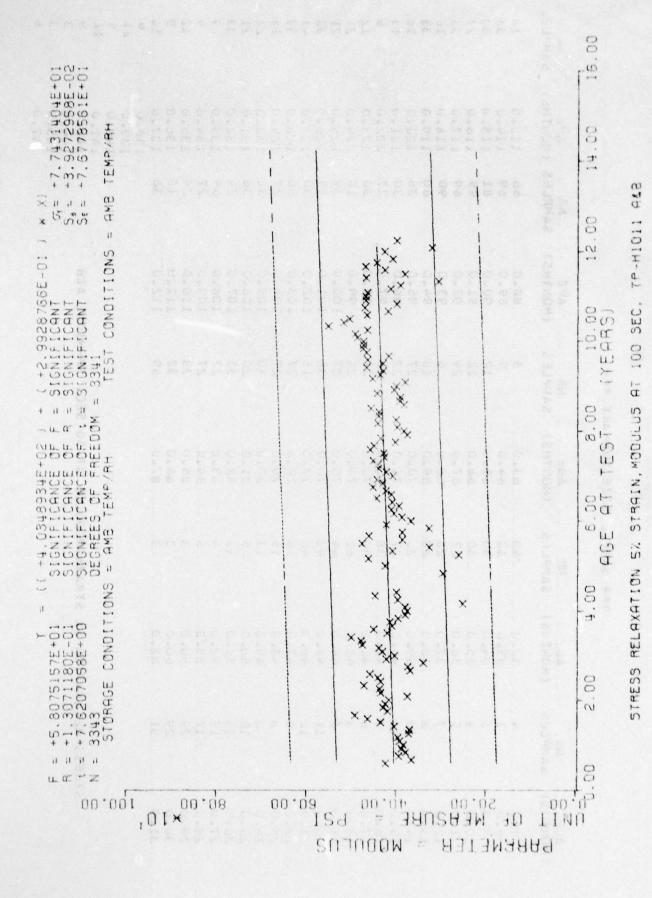
	ACE (MONTHS)	SAMPLES	(MONTHS)	SAMPLES	ADE (MUNTHS)	SAMPLES	(MONTHS)	SAMPLE
32.0		3	63.0	m	38.0	99	113.0	18
33.0		38	0.49	J.	0.68	69	114.0	55
34.0		30	65.0	71	90.0	18	115.0	3.0
35.0		30	0.09	12	91.0	66	116.0	77
36.0		2.7	0.70	24	92.0	69	117.0	33
37.0		97 .	68.0	9	93.0	06	118.0	14
36.0	- 1	20	6.69	81	0.46	09	119.0	33
39.0		23	70.0	27	0.56	36	120.0	36
40.0		17	71.0	7.2	0.96	30	121.0	15
41.0		30	72.0	25	97.0	27	122.0	•
42.0		20	73.0	21	0.86	30	143.0	71
43.0		6.1	74.0	21	0.66	18	124.0	77
44.0		77	75.0	27	100.0	39	1.5.0	17.
45.0		70	70.0	38	101.0	39	120.0	3
46.0		48	77.0	57	102.0	30	127.0	7+1
47.0		30	74.0	27	103.0	30	126.0	31
0.84		15	19.0	27	104.0	27	129.0	12
6.64		11	80.0	30	105.0	38	130.0	77
50.0		n	0.18	20	100.0	36	131.0	17
27.6		57	82.0	33	107.0	54	132.0	33
52.0		4	63.0	27	108.0	69	133.0	,
53.0		S	84.0	7.7	108.0	27	134-0	*
53.3		۳,	0.58	33	110.0	24	135.0	71
0.09		3	0	32	111.0	18	130.0	6
62.0		2	87.0	69	112.0	36	137.0	10
							138-0	9
							139.0	77
•		1					0.0+1	0
							141-0	71 -
RELAXATION 5% STRA	-	RA IN. MUDULUS	JLUS AT 10	SEC. TP-H1011	1011 AEB		142.0	6
							144.0	m
							145.0	3.
							147.0	9 .



*** SAMPLE SIZE SUMMARY ***

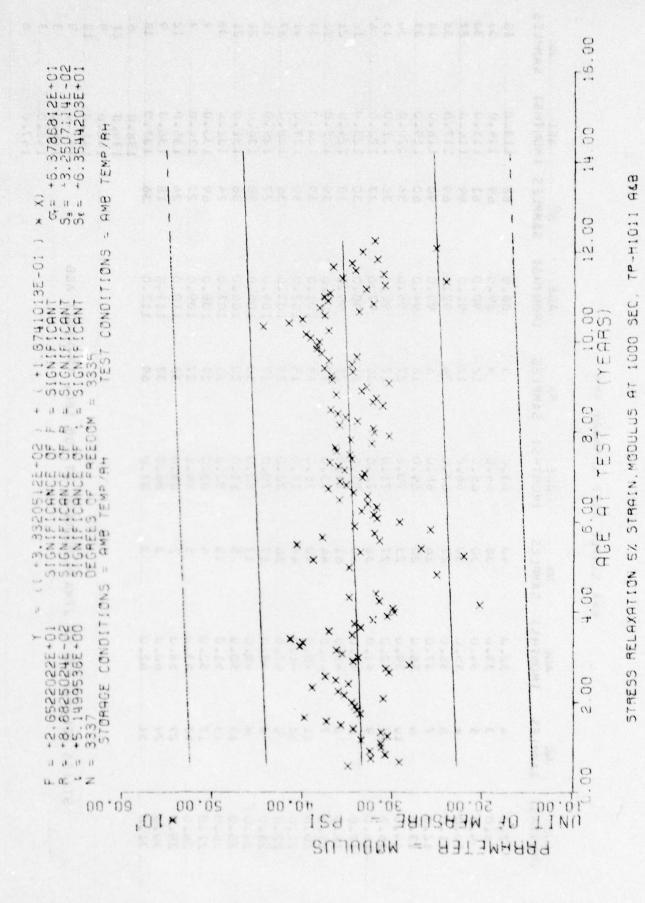
SAMPLES	16	33	30	17	33	16	33	36	13	•	71	77	21	1,	745	3.7	15	77	17	3.3	1	0	71	6	10	0	17	•	71	6	3	3	9
A ^G E-	113.0	114.0	115.0	110.0	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	34	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	144.0	145.0	147.0
SAMPLES	99	69	81	66	69	06	09	36	30	27	30	18	39	39	30	36	27	38	36	24	69	27	54	18	36			Address of the other					
AGE (MONTHS)	88.0	0.68	0.06	91.0	92.0	93.0	0.46	0.36	0.96	97.0	0.86	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0					1011 AEB			
SAMPLES	3	6	12	12	24	9	1.8	27	27	26	77	77	27	38	15	177	17	30	20	33	27	27	33	32	69					SEC. TP-H1011			
AGE (MONTHS)	63.0	0.49	0.50	0.00	67.0	68.0	0.69	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	19.0	0.09	31.0	82.0	63.0	84.0	85.0	O	87.0					41 50			
SAMPLES	4.0	30	30	30	7.7	26	20	23	27	3.8	80	61	**	64	4.8	30	15	17	2	1.0	4	2	3	m	3			of home market is		TRA IN MODULUS			
(MONTHS)	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0	0.04	41.0	45.0	43.0	44.0	45.0	46.3	47.0	48.0	6.65	50.0	51.0	52.0	53.0	58.0	0.00	05.0			the same of the same		RELAXATION 52 S			
IIIK SAMPLES	4	3	10	•	5	1	0	10	12	6	0	9	1	17	71	. 6	Q	-0	18	1.1	11	11	53	53	51			Carlo Marie Carlo Carlo		STRESS RELAX			
AGE (MONTHS)	7.0	8.0	0.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	13.0	15.0	20.0	21.0	22.0	23.0	24.0	75.0	20.0	27.0	28.0	29.0	30.0	31.0					ST	;		

STRESS RELAXATION 5% STRAIN. MODULUS AT 50 SEC. TP-HI011 A&B



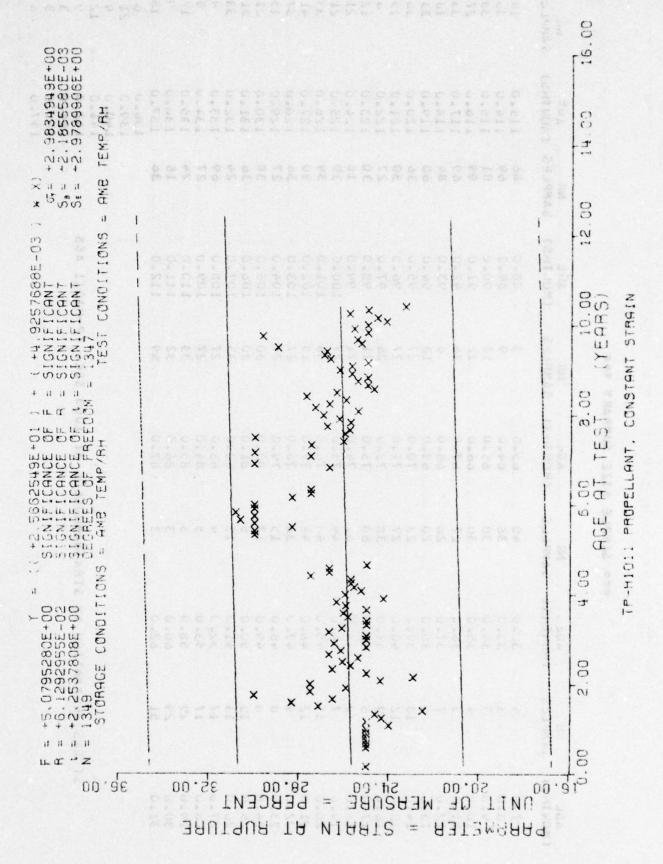
*** SAMPLE SIZE SUMMARY ***

Ave	Ž	AGE	ž	46E	NR	AGE	24	AGE	775
(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES
7.0	•	32.0	?	63.0	3	38.0	99	113.0	1.0
8.0	3	33.0	38	0.40	•	0.68	69	114.0	33
6.6	10	34.0	30	0.50	17	30.0	18	115.0	30
10.0	•	35.0	30	0.99	12	0.16	66	11600	21
11.0	5	36.0	27	67.0	24	92.0	69	117.0	33
12.0	1	37.0	97	0.89	9	93.0	06	116.0	13
13.0	0	38.0	50	0.69	1.8	0.46	09	119.0	33
14.0	10	39.0	2.3	70.0	27	95.0	36	120.0	30
15.0	12	40.0	27	71.0	27	0.96	30	121.0	2
16.0	6	0.14	38	74.0	26	97.0	27	122.0	9
17.0	0	9.75	60	73.0	21	98.0	30	123.0	71
16.0	0	43.0	61	74.0	21	0.66	18	124.0	77
19.0	1	0.44	;	75.0	2.2	100.0	39	125.0	77
20.0	11	45.9	40	76.0	38	101.0	39	176.0	33
21.0	77	46.0	48	77.0	15	102.0	30	127.0	+1
22.0	0	47.0	36	74.0	27	103.0	36	126.0	37
23.0	9	48.0	15	79.0	27	104.0	27	129.0	15
24.0	9	49.0	17	80.0	30	105.0	38	130.0	21
25.0	13	50.0	u	81.0	20	106.0	36	131.0	. 21
20.0	1.5	51.0	13	82.0	33	107.0	54	132.0	33
27.0	1.7	57.0	4	83.0	27	108.0	69	133.0	•
26.0	1.1	53.0	5	84.0	27	109.0	23	134.0	•
29.0	62	58.3	8	65.0	33	110.0	54	135.0	17
50.00	23	60.0	3	86.0	32	111.0	18	136.0	•
31.0	75	62.0	3	87.0	69	112.0	36	137.0	18
								136.0	4
								139.0	21
-								140.0	6
								141.0	12.
5	STRESS RELAXATION	XATION 54 5	TRA IN. MODULUS	AI	100 SEC. TP-H1011 A&B	H1011 AEB		145.0	6
					And the second second	and the state of the state of		144.0	3
								145.0	3



*** SAMPLE SIZE SUMMARY ***

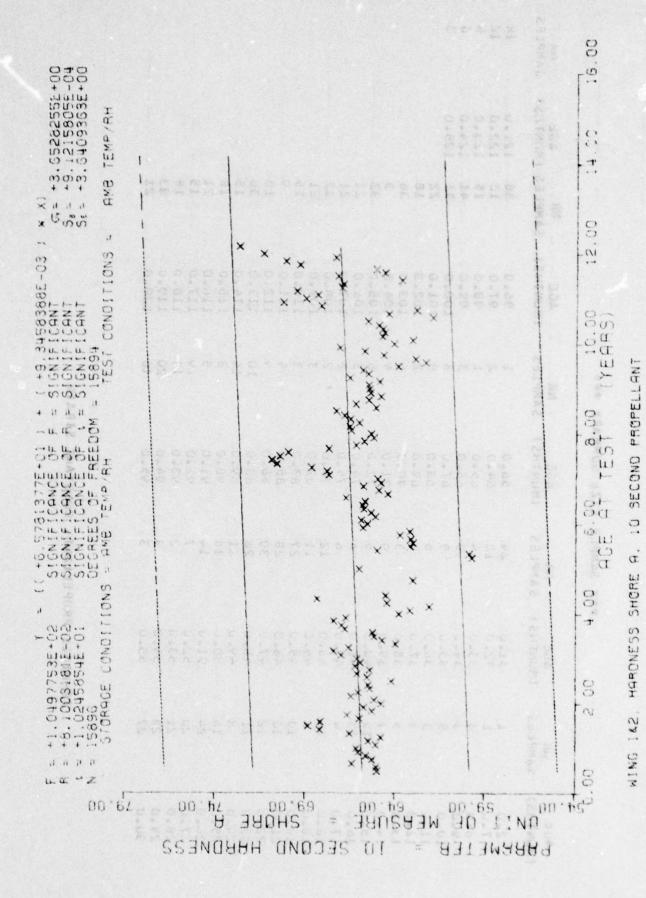
AGE	HE.	AGE	NR	AGE	MR	AGE	MR	AGE	- ATE
MUNTHS	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MUNTHS)	SAMPLES
7.0	4	34.0	40	0.00	3	38.0	99	113.0	14
3.0	,	33.0	38	0.49	6	69.0	69	114.0	: -
0.6	3	34.0	30	65.0	12	0.06	81	115.0	. is
10.0	*	35.0	30	66.0	12	91.0	66	116.0	71
11.0	5	36.0	27	0.79	24	92.0	69	117.0	33
12.0	1	37.0	20	0.89	•	93.0	48	118.0	19
13.0	3	38.0	. 20	0.69	13	0.46	09	119.0	33
14.0	27	39.0	23	70.0	17	95.0	36	120.0	30
15.0	77	40.0	7.7	71.0	7.2	0.96	30	121.0	15
16.0	6	41.0	38	72.0	26	97.0	27	177.0	•
11.0	0	42.0	60	73.0	. 21	98.0	30	123.0	17
18.0	20	43.C	1,5	74.0	77	0.66	18	1,4.0	17
19.0	1	0.44	**	75.0	27	100.0	39	125.0	77
20.02	11	45.0	704	76.0	36	101.0	39	120.0	3.5
21.0	77	0.94	48	77.0	. 15	102.0	30	127.0	41
22.0	6	47.0	36	70.0	. 27	103.0	36	128.0	17
23.0	20	0.84	52	79.0	27	104.0	27	129.0	15
24.0	. 33	6.65	1.7	80.0	30	105.0	38	130.0	77
0.57	113	50.0	2	0.18	50	106.0	36	131.0	21
20.0	13	51.0	13	82.0	33	107.0	54	134.0	33
27.0	11	0.76	*	63.0	7.7	108.0	69	133.0	•
0.07	1.1	53.0	5	84.0		109.0	- 21	134.0	0
29.0	Q	58.0	.0	85.0	33	110.0	57	135.0	17
30.0	5.5	60.09	т	86.0	32	111.0	18	130.0	6
31.0	75	62.0	3	87.0	69	112.0	36	137.0	118
								138.0	9
								139.0	17
			- P. C.			The state of the state of		140.0	. 5
								141.0	71
10	STRESS RELAD	HELAXATION 5% S	STRAIN, MODULUS	ALUS AT 1000	SEC.	TP-H1011 AEB		145.0	6
			a Vision American					144.0	3 -
								145.0	
								0-/41	0



*** SAMPLE SIZE SUMMARY ***

2.0 7.0 7.0 8.0 9.0 10.0	SAMPLES	(MUNTHS)	SAMPLES					1 SHITH WAY	SAMOLES
22.00.00.00.00.00.00.00.00.00.00.00.00.0	1			CALVIE	SAMPLES	(MUNTHS)	SAMPLES (MONTHS)	ופשואסשו	SHIP LLS
200000		31.0	54	56.0	1	0.96	38	121.0	81
0.00	1	32.0	57	0.49	2	97.0	12	122.0	71
0.01	-1	33.0	14	65.0	1	98.0	15	123.0	9
10.0	,	34.3	6	0.97	3	0.66	19	124.0	9
11.0	ın	35.0	6	67.0	3	100.0	31	125.0	
	'n	36.0	9	68.0	60	101.0	22		
0.71	3	37.0	6	69.0	2	102.0	18		
15.0	ŗ	38.0	3	70.07	9	103.0	36		
14.0	•	39.0	6	71.0	4	104.0	9		
15.0	15	40.0	0	72.0	9	105.0	33		
16.0	13	41.0	٥	74.0	3	100.0	21		
17.0	,	42.0	9	75.0	2	107.0	21		
10.01	1.7	43.0	77	15.0	2	108.0	12		
0.51	,	44.0	11	32.0	3	109.0	21		
20.0	1.0	45.0	7.2	83.0	3	110.0	15		
21.0	2	46.0	78	35.0	,	111.0	•		
22.0	17	47.0	30	86.0	9	112.0	18		
23.0	11	48.0	26	68.0	10	113.0	30		
6.47	מ	49.0	1.7	89.0	14	114.0	15		
25.0	16	50.0	91	90.0	3	115.0	18		
20.0	5.4	51.0	1.4	91.0	2	116.0	21		
0.77	23	52.0	1	92.0	61	117.0	15		1111111111
28.0	17	53.0	2	93.0	14	118.0	18		
29.0	24	54.0	3	0.46	20	119.0	33		
30.0	27	55.0	. 3	95.0	91	120.0	77		

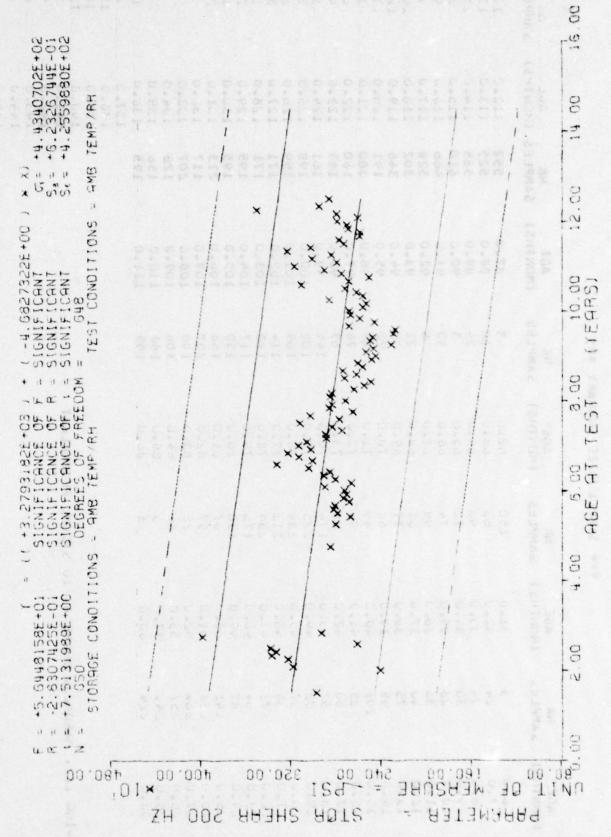
IP-HIDIL PROPELLANT. CONSTANT STRAIN



*** SAMPLE SIZE SUMMARY ***

78	SAMPLE	171	133	757	18	90	15	140	171	111	15	60	45	13	30	33	33	15	24	. 15	2+	6		9	•	71	9	15	81	17	3	6	-9-	3	•	
NR AGE	(SHIMINE)	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	0.071	121.0	122.0	123.0	124.0	125.0	120.0	127.0	0.871	129.0	130.0	131.0	132.0	133.0	134.0	135.0	130.0	137.1	136.0	139.0	140.0	141.0	142.0 .	143.0	144.0	146.0	
N.	SAMPLES	552	525	585	610	466	528	302	346	161	180	180	183	191	198	159	171	171	195	195	213	117	707	126	156	195										
AGE	CAUNINA	87.0	38.0	89.0	90.0	91.0	92.0	93.0	6.46	95.0	0.96	97.0	0.86	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0										
NR	SAMPLES	3	81	54	3	33	9	21	35	77	87	78	63	144	102	105	114	170	111	150	160	207	1 30	3 08	180	195										
AGE	(MUNIHS)	62.0	63.0	0.40	0.49	66.0	67.0	0.80	0.69	70.0	71.0	72.0	73.0	74.0	75.0	70.07	77.0	78.0	79.0	80.0	01.0	87.0	83.0	84.0	65.0	86.0					PR.OPELLANT					
84 84 8	SAMPLES	150	63	35	72	74	66	19	11	29	64	56	95	174	577	234	212	234	176	138	lo.	25	57	97	,	. 3					S EC UND					
AGE	CHINDMI	31.0	52.0	53.0	34.0	35.0	36.0	37.0	38.0	39.0	40.0	6.14	45.0	43.0	0.44	45.0	46.0	47.0	40.0	0.54	50.0	51.0	52.0	53.0		0.00					SHUKE A. 10					
N N	SAMPLES	٦	*7	7.	3,	67	34	7	75	9.5	105	57	60	57	72	- 10	34	7.3	5+	18	141	217	407	157	747	477										
AGE	1 MUNITURE	6.0	7.0	8.0	0.2	10.0	0.11	15.0	12.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	25.0	27.0	0.32	29.0	30.00					WING 182. HARDNESS					

WING 162. HARDNESS SHUKE A. 10 SECUND PROPELLANT

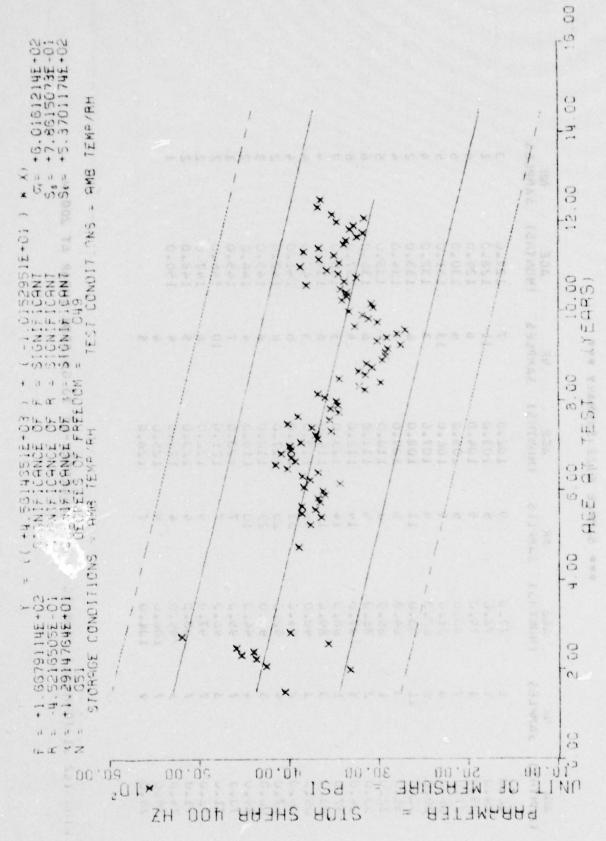


200 HZ 4 GM. STOR SHEAR 20 SI TP-HIGII DYNAMIC RESPONSE, CENTER-WT MING 142

*** SAMPLE SIZE SUMMARY ***

777	:7:	ON	AGE	a	ACE	dN
SAMPLES	(MUNTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES
1	77.0	6	102.0	1	127.0	3
1	16.0	5	103.0	111	128.0	1
7	19.0	c	104.0	9	129.0	4
,	80.0	2	105.0	ç	130.0	9
3	81.3	0	0.901	13	131.0	2
20	82.0	5	107.0	3	132.0	4
11	43.0	11	108.0	9	133.0	2
٦	0.40	LO .	0.501	7	134.0	4
1	95.0	0	110.0	1 200	135.0	2
7	86.0	6	111.0	9	136.0	9
	97.0	1,4	112.0	4	137.0	80
-1	03.0	51	113.0	3	138.0	7
1	39.0	13	114.0	,0	139.0	4 200
,	0.06	45	115.0	3	140.0	4
7	0.16	33	110.0	9	141.0	4
4	0.76	57	117.0	80	142.0	2
n	93.0	23	118.0	00	143.0	60
+	6.46	7	119.0	+	144.0	2
1	65.0	7	120.0	1	145.0	7
77	96.0	1	121.0	10	146.0	2
1	97.0	7	122.0	9	147.0	2
,	18.0	4	123.0	5	146.0	2
7	9.56	*	124.0	*	150.0	-
,	100.0	6	125.0	4		
6	0.101	1	126.0	2		

WING 162 ST TP-HIDIL DYNAMIC RESPONSE, CENTER-WT 70 GM, STOR SHEAR AT 200 H

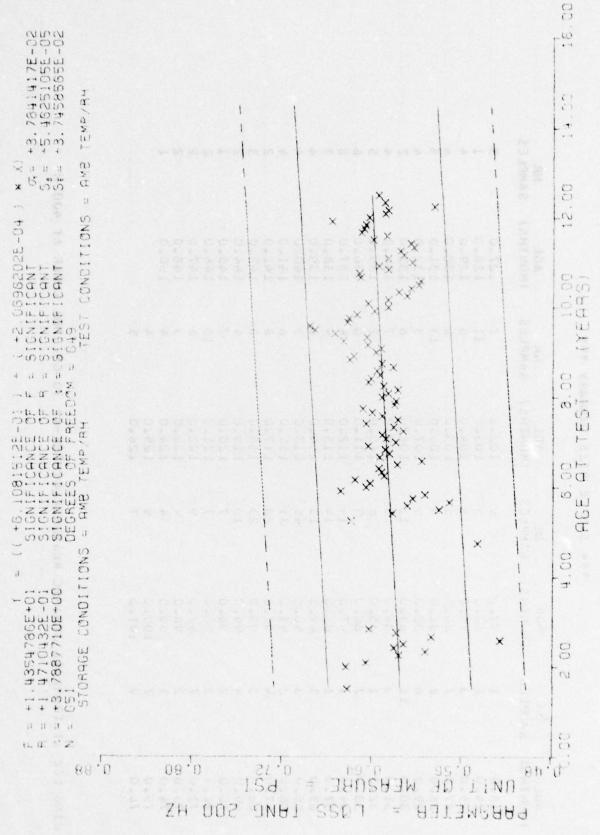


GM, STOR SHEAR AT RESPONSE, CENTER-NT TP-HIDII DINGMIC 2 M ... DELK

*** SAMPLE SIZE SUMMARY ***

NR	3	1	4	9	2	4	2	*	2	9	ω	7	4	,	4	2	m	2	1	2	2	2	1		
AGE (MONTHS)	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	148.0	150.0		
SAMPLES	1	11	0	9	13	3	9	1	1	,	*	4	9	3	9	29	80	4	7	10	9	•	*	4	2
AGE (MONTHS)	102.0	103.0	104.0	105.0	100.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121.0	122.0	1.23.0	124.0	125.0	126.0
SAMPLES	24	5	5	. 5	6	5	11	80	9	. 3	14	14	13	24	33	87	23	10	1	1	6	*	4	6	7
AGE (MUNTHS)	77.3	70.0	19.0	90.00	91.0	82.0	53.3.	34.0	85.0	36.0	67.0	88.0	69.0	0.05	0.16	92.0	93.0	64.0	35.0	96.0	97.0	98.0	36.0	100.0	101.0
SAMPLES	7	-	7	7	າວ	70	11	7	1	2	·	1	23	,	7	+	3	4	1	3	1	11	3	1	6
AGE (AUNTHS)	18.0	24.0	25.0	27.0	28.0	29.0	30.0	0.10	32.0	33.0	34.0	67.0	63.0	65.0	0.99	67.0	0.09	0.69	76.0	71.0	12.0	73.0	74.0	75.0	16.0

WING 162 of TP-HIUIL DYNAMIC RESPUNSE. CENTER-WI 70 GM. STOR SHEAR AT 400 H

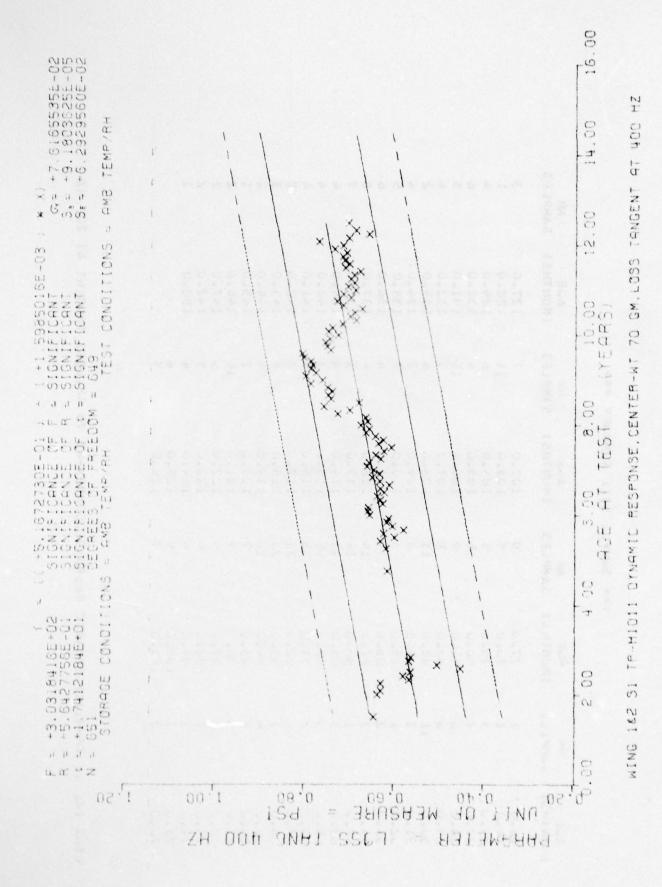


i-d GM, LOSS TANGENT 20 RESPONSE, CENTER-WI TP-HIDII DYNAMIC 03 : \$2 SNIK

*** SAMPLE SIZE SUMMARY ***

NR	М	1	+	9	2	4	- 7	4	2	9	80	7	4	4	4	2	m	2	1	2	2	7	-		
AGE (HUNTHS)	127.0	128.0	179.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	148.0	150.0		
NR SAMPLES	7	11	9	9	13	3	9	7	7	9	4	3	9	3	9	63	8	4	1	10	9	5	4	4	5
AGE (MUNTHS)	102.0	103.0	104.0	105.0	100.0	107.0	108.0	109.0	0.011	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	113.0	123.0	121.0	122.0	123.0	124.0	125.0	120.0
NR SAMPLES	6	5	2	5	6	6	11	00	0	6	14	14	13	45	33	28	. 52	10	1	7	6	4	+	6	1
AGE (MUNTHS)	17.9	76.0	19.3	80.3	81.6	0.78	83.0	64.0	35.0	0.00	67.0	58.0	6.68	90.0	91.0	92.0	93.0	0.46	95.0	96.3	0.76	98.0	0.66	0.001	0-101
NK SAMPLES	•	1	5	,	n	3	11	3	1	2	m	1	.0	,	7	4	•	4	1	•	1	1		1	•
ASE (RUNTHS)	18.0	24.0	25.0	27.0	28.0	29.0	30.0	31.0	22.0	33.0	34.0	57.0	63.0	65.0	0.00	67.0	0.00	6.63	70.0	71.0	72.0	13.0	14.0	75.0	76.0

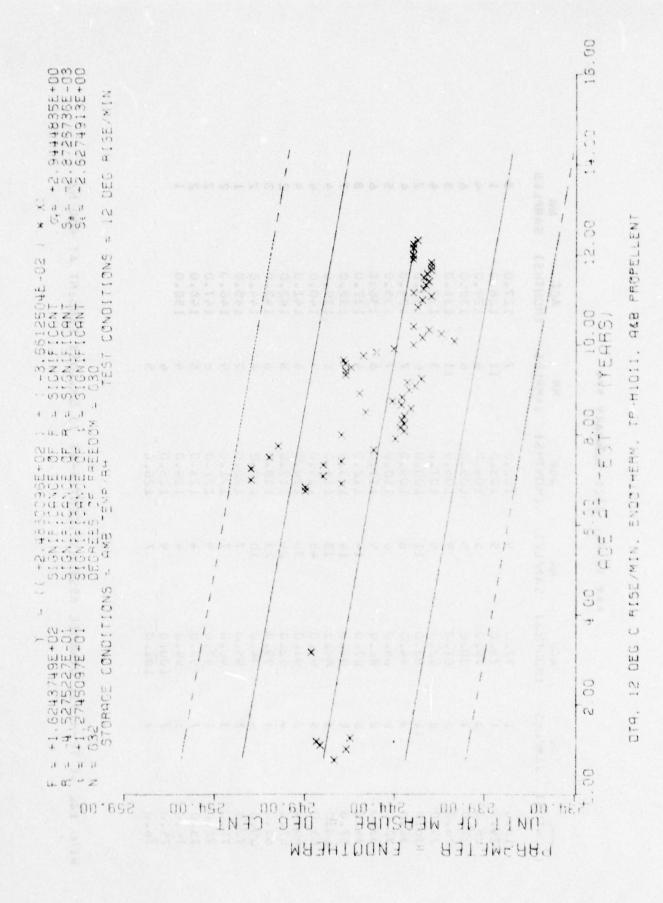
KING 162 OF TP-HIDIL DYNAMIC RESPONSE. CENTER-WT 70 GM. LOSS TANGENT AT 200 HZ



*** SAMPLE SIZE SUMMARY ***

XX	SAMPLES	3	-	4	9	5	4	2	4	'n	•	80	7	4	4	4	2	9	2	1	2	2	2	1		
AGE	(MONTHS)	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	148.0	150.0		
X X	SAMPLES	7	11	ò	9	13	3	9	7	7	,o	4	4	9	3	9	90	20	4	7	5	9	5	4	4	2
AGE	(MONTHS)	102.0	103.0	104.0	105.0	106.0	107.0	108.0	100.0	110.0	111.0	112.0	113.0	114.0	0.511	110.0	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0	126.0
¥.	SAMPLES	3	5	S	S	6	6	- 11	۵	9	6	14	14	13	45	35	87	23	07	7	7	6	4	4	0	7
AGE	(MUNTHS)	77.0	78.0	79.0	30.0	81.3	82.0	83.0	84.0	0.50	86.0	87.0	88.0	89.0	70.0	91.0	95.0	93.0	0.46	95.0	0.36	97.0	98.0	0.56	100.0	101.0
X	SAMPLES	1	1	~	1	10	ъ	11	ç	1	7	3	1	3		7	,	•	+	7	6	1	1	3	1	6
AGL	(BUNTHS)	16.0	24.0	75.0	0.72	26.0	24.0	30.0	31.0	32.0	35.0	34.0	57.0	63.0	65.0	0.00	67.0	0.80	0.60	70.07	71.0	72.0	73.0	74.0	75.0	70.0

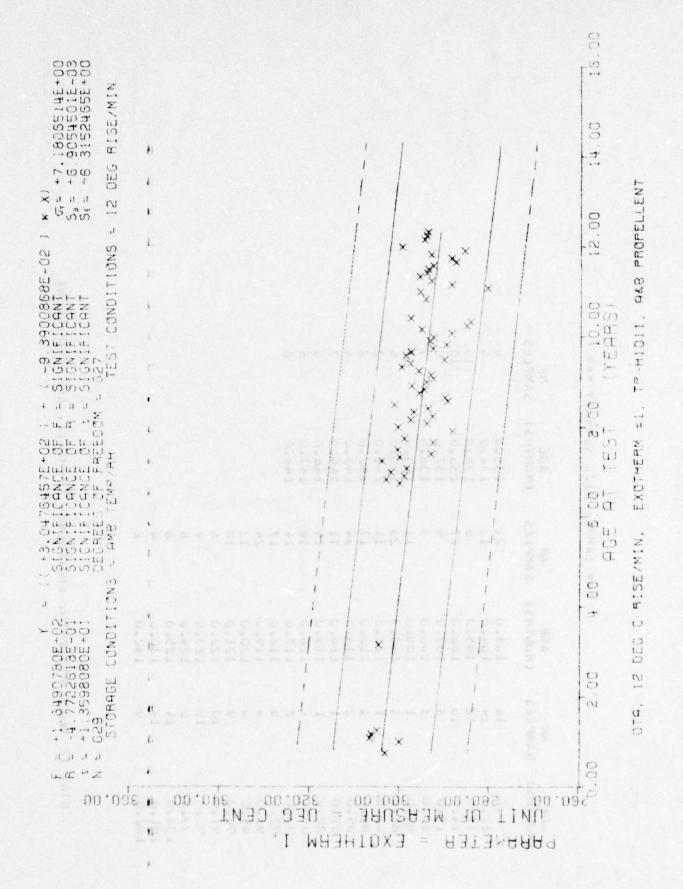
WING 162 ST TH-HIDII DYNAMIC RESPONSE. CENTER-WT 70 GM. LOSS TANGENT AT 400 HZ



*** SAMPLE SIZE SUMMARY ***

	SAMPLES	4	4	16	01	ກ	7	- 17	9	2	2	4	2	\$	0	60										
•	AGE (MONTHS)	133.0	134.0	135.0	136.0	137.0	134.0	139.0	140.0	141.0	145.0	143.0	144.0	146.0	147.0	148.0										
	SAMPLES	77	12	٥	27	6	6	17	23	11	17	34	11	16	18	14	17	54	17	18	J	6	80	89	4	
	AGE (MONTHS)	103.0	104.0	105.0	100.0	107.0	1.08.0	109.0	110.0	111.0	115.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0	130.€	132.0
	S AMPLES	16	4.7	- 77	10	٣	3	1	-	1 20	-	~1	1	-	•	2	2	+	+	6	21	15	a	14	14	•
	(MUNTHS)	9.6	12.0	13.0	14.0	15.0	30.0	81.0	82.0	63.0	34.0	65.0	67.0	33.0	0.60	3.06	32.0	95.0	35.€	96.0	97.0	0.36	33.0	100.0	101.0	105.0

DIA. 12 DES C RISE/MIN. ENUCFHERM. TP-HIDII. AEB PROPELLENT

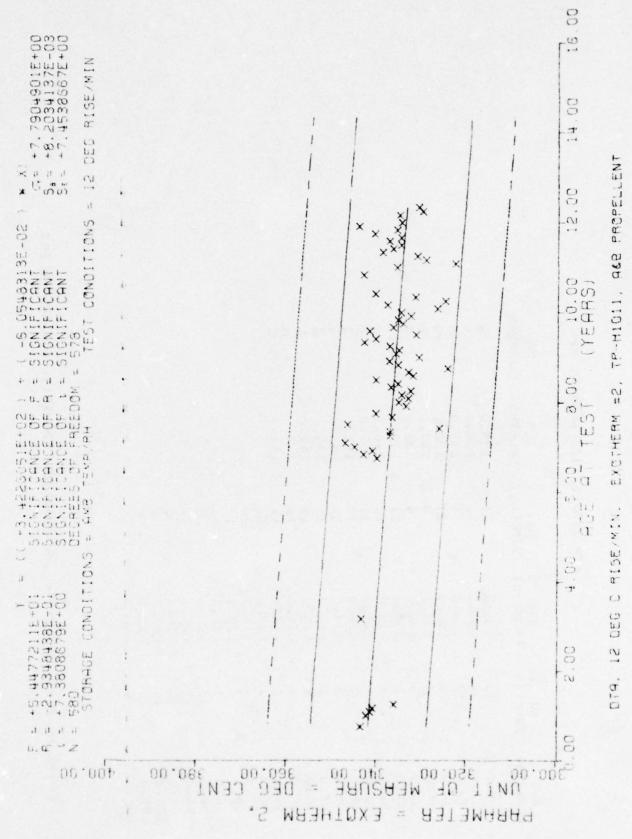


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*** SAMPLE SIZE SUMMARY ***

NR SAMPLES	4	4	91	10	80	7	17	9	2	7	4	7	9	9	အ										
AGE (MUNTHS)	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	145.0	143.0	144.0	146-0	147.0	146.0										
NR SAMPLES	21	15	9	27	6	6	11	21	11	1.1	33	11	61	16	17	17	24	17	87	9	6	a)	60	4	7
AGE (MUNTHS)	105.0	104.0	100.01	100.0	107.0	100.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	0.711	113.0	119.0	0.071	121.0	122.0	1.23.0	124.0	172.3	130.0	132.0
NR SAMPLES	2	+.7	77	2	m	•		1	Ţ	.7	7	•	1	1	7	•	+	4	*	2	15	0	14	14	7
AGE (MUNTHS)	0.6	12.0	13.0	14.0	15.0	50.0	0.18	82.0	3.0	0.40	85.0	0.73	63.0	0.68	0.00	92.0	93.0	0.56	0.96	0.79	0.85	0.65	100.0	0.101	105.0

DIA. 12 DEG C RISE/MIN. FXCTHERM #1. TP-H1011. A 68 PROPELLENT

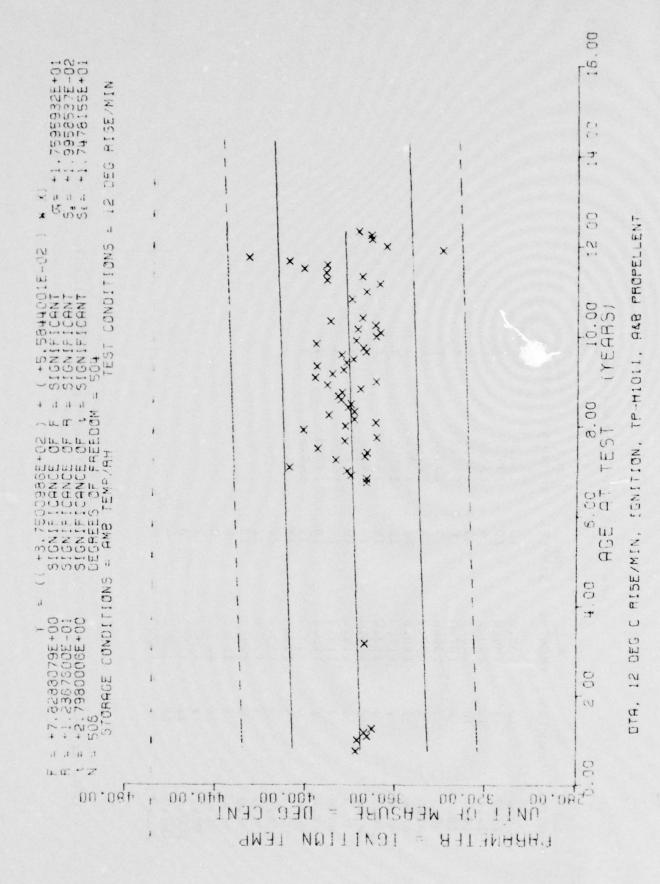


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*** SAMPLE SIZE SUMMARY ***

NR SAMPLES	14	15	10	8	7	16	5	2	2	2	2	9	.,	8										
AGE (MONTHS)	133.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	145.0	143.0	144.0	146.0	147.0	148.0										
SAMPLES	13	4	73	80	6	89	18	11	12	34	10	61	13	13	13	22	17	18	3	8	1	8	4	7
AGE (MUNTHS)	103.0	135.0	196.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	lic. o	117.0	110.0	119.0	120.0	121.0	122.0	1.23.0	124.0	125.0	130.3	132.0
TIN SAMPLES	95	71	lo	0	•	1	1	.1	7	7	-	-	1	7	0	•		0	1	77		11	15	6
AGE (SONTHS)	0.51	12.0	14.0	15.0	0.86	0.18	62.0	83.0	84.0	0.30	37.0	0.00	0.60	90.0	92.0	93.0	95.0	0.96	0.16	98.0	0.56	100.0	0.101	135.0

DIA. 12 DEG C PISE/MIN. EXCTHERM #2. TP-HIDII. A&B PRUPELLENT



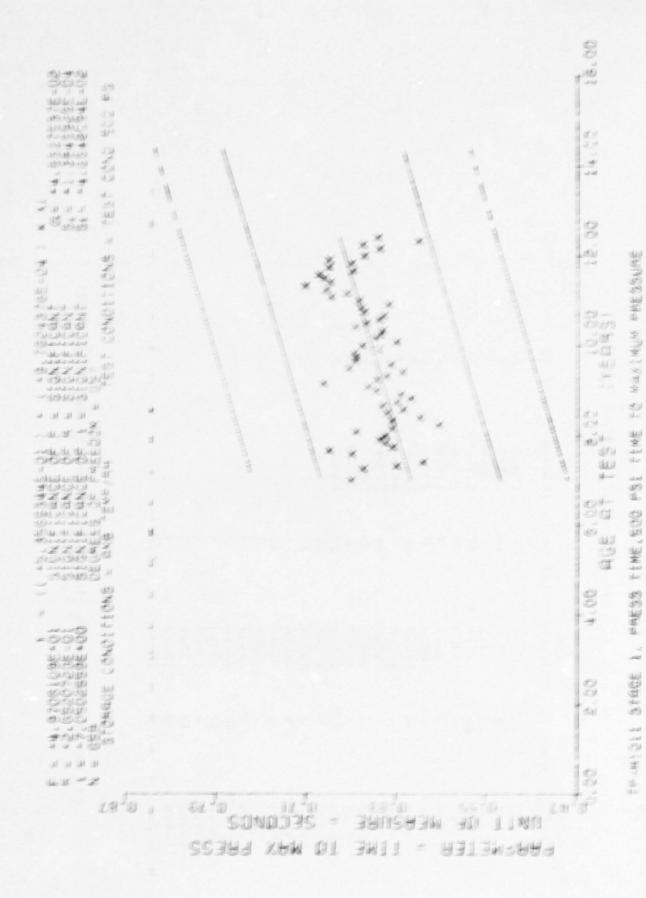
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+++ SAMPLE SIZE SUMMARY +++

NRSAMPLES	2	6	7	C	5	12	3	7	2	7	4	c	8												
AGE (MONTHS)	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	145.0	144.0	146.0	147.0	148.0												
NR SAMPLES	20	11	9	23	6	6	7	12	7	14	73	3 0	1.1	10	10	11	18	2	17	3		2	20	2	2
AGE (MUNTHS)	103.0	104.0	105.0	106.0	0.701	136.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121.0	144.0	123.0	124.0	175.0	130.0	132.0
NA SAMPLES	10	5 +	1.2	10	3	٦	-	•	-		2	-	7	1	7	4	+	2	6	01	15	4	71	9	6
AGE (HOMTHS)	0.0	14.0	13.0	14.0	15.0	33.3	81.0	94.0	63.0	6.45	85.0	37.0	0.83	0.50	0.05	0.26	93.0	0.56	96.0	97.0	0.05	0.66	100.0	161.0	102.0

UTA. 12 JEG C PISE/MIN. IGNITION. TP-HIUII. A&B PROPELLENT

MA NAME OF PERSONS

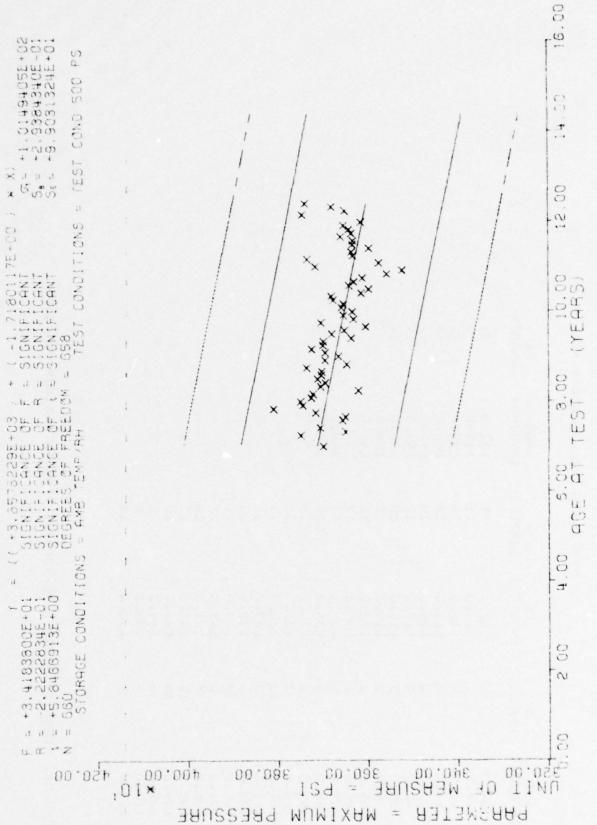


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*** SAMPLE SIZE SUMMARY ***

SAMPLES	56	6	111	14	12	9	10	7	4	2	2	3													
AGE (MUNTHS)	137.0	138.0	139.0	140.0	0.141	145.0	143.0	144.0	146.0	147.0	146.0	149.0													
SAMPLES	6	11	7	52	15	11	23	13	91	12	1	54	15	30	15	55	30	21	77	16	12	10	n	4	70
AGE (MONTHS)	112.0	113.0	114.0	115.0	116.3	117.0	118.0	119.0	120.0	121.3	122.0	123.0	124.0	125.0	176.0	127.0	128.0	179.0	130.0	151.0	132.0	155.0	134.0	135.0	136.0
SAMPLES	7	,	~	*	3	1	*	7	7	1	5	,	2		2	*		27	0	,	11	16	07	*	4
(KONTHS)	84.0	37.0	0.83	0.60	61.0	92.0	63.0	94.0	0.56	0.76	97.0	28.0	0.66	130.0	0.101	0.701	133.0	104.0	102.0	106.0	1.07.0	1.36.0	1.39.0	110.0	0.111

IP-HIDII STAGE 1. PRESS TIME, SOO PSI TIME TO MAXIMUM PRESSURE

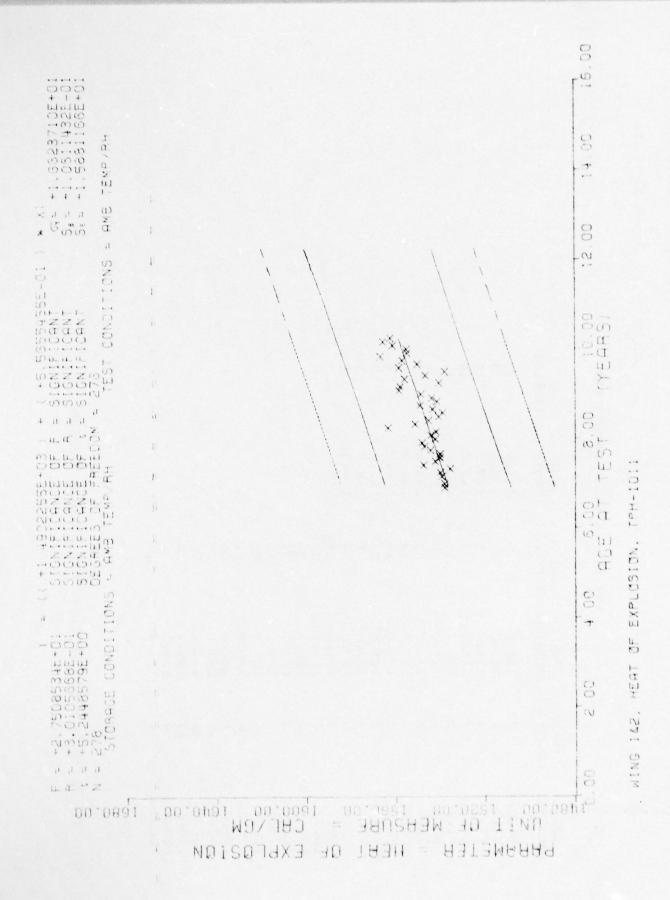


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TP-HIDII STAGE 1, PRESS TIME, SOO PS! MAXIMUM PRESSURE

*** SAMPLE SIZE SUMMARY ***

TP-HIOLI STAGE 1, PRESS TIME, SOU PSI MAXIMUM PRESSURF



11

*** SAMPLE SIZE SUMMARY ***

NK	SAMPLES	12	7	93	11	717	7	- 14	11	16	71	11	œ.	4	1	3										
AGE	(MUNTHS)	.60	110.0	111.0	12.	113.0	114.0	115.0	116.0	117.0	-	119.0	120.0	121.0	177.0	123.0										
A.	SAMPLES	1	1		7	-1	2	•	4	2	,	•	•	•	.0	0	1	•	0.1	·	1	8	7	0	71	11
AGE	(MUNTHS)	83.0	34.0	0.00	67.0	38.0	0.68	90.0	0.16	92.0	52.0	94.0	95.0	96.0	97.0	0.36	0.66	100.00	101.0	1.32.0	103.0	134 36	105.0	100.0	107.0	108.0

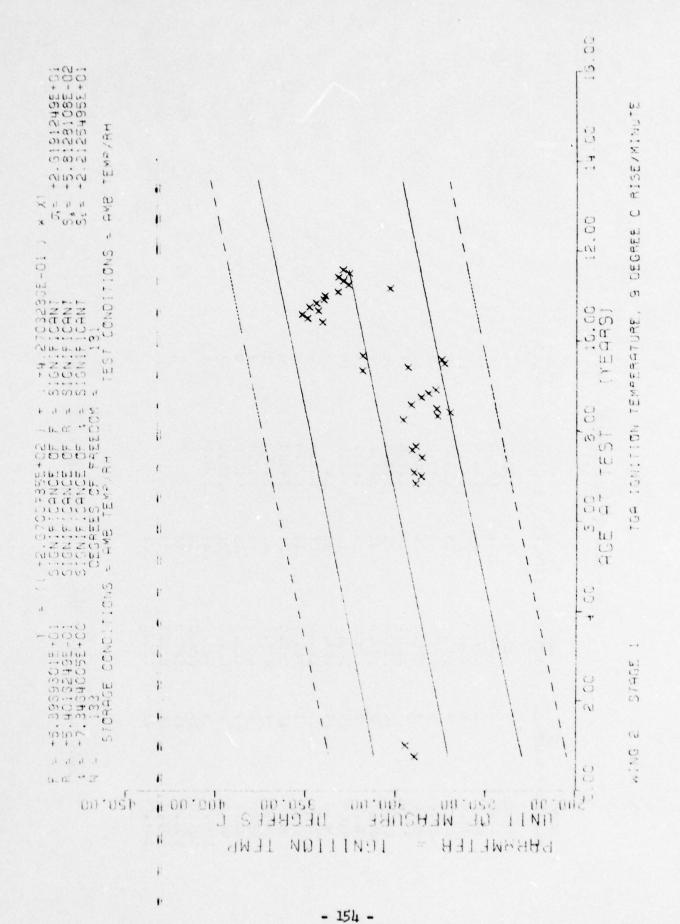
WING 162, HEAT UP EXPLUSION. TPH-1011



*** SAMPLE SIZE SUMMARY ***

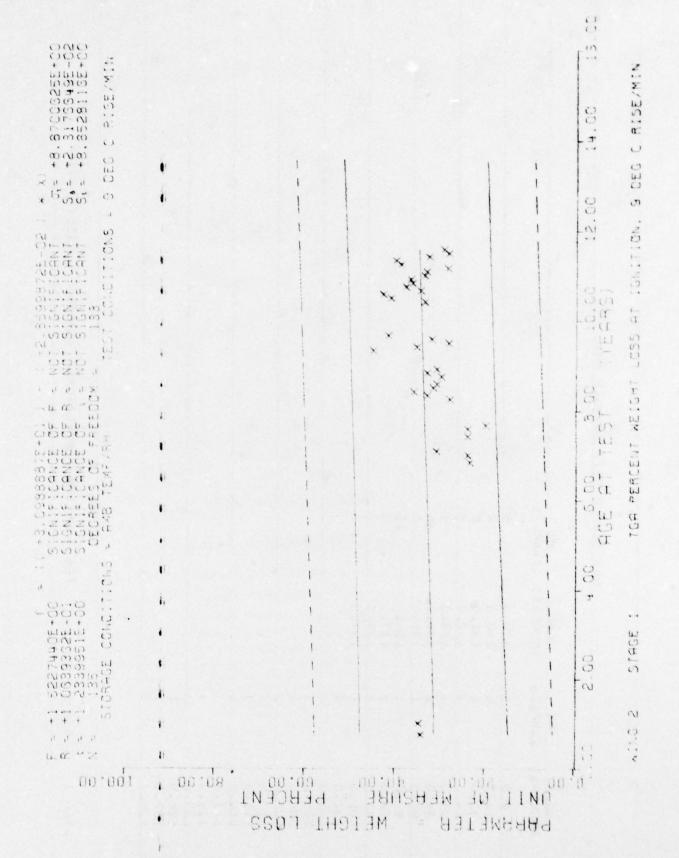
SAMPLES	24	15	1.2	17	6	3	21	27	13	24	1.2	15	9	7	9	9	3	3	6	3	23				
AGE (MUNTHS)	130.0	131.0	132.0	133.0	134.0	135.0	136.0	1.57.0	138.0	139.0	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	1.43.0	149.0	150.0				
SAMPLES	77	18	21	16	15	5	24	2.7	2.1	77	13	lo o	45	17	18	- 17	10	18	51	17	47	29	20	36	17
(MUNTHS)	105.0	106.0	107.0	104.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	115.0	117.0	119.0	119.0	1.20.0	121.0	122.0	123.0	124.0	125.0	1.26.3	127.0	128.0	129.0
SAMPLES	٦	:0	,	~	6	3	m	•	71		67	1.4	15	•	~1	1.2	6	3	,	.7	9	15	27	13	ÇT
ACE (MUNTHS)	78.0	30.0	81.0	32.0	33.0	85.0	86.0	0.79	0.38	89.0	96.0	91.0	0.76	93.0	0.46	95.0	96.0	0.79	98.0	0.56	100.0	0.10.0	105.0	103.0	104.0

STACE 1. WING AEB. TP-HIDIL. BURNING RATE 1000 PSI



*** SAMPLE SIZE SUMMARY ***

9.0 6 129.0 5 12.0 7 130.0 3 3 32.0 1 131.0 6 64.0 1 132.0 5 65.0 1 132.0 5 69.0 2 134.0 6 99.0 1 135.0 8 100.0 1 135.0 5 101.0 2 136.0 2 102.0 3 103.0 3 103.0 3 112.0 2 113.0 3	129.0 130.0 131.0 132.0 135.0 135.0 138.0 138.0	129.0 130.0 131.0 135.0 135.0 138.0 138.0 138.0
130.0 131.0 132.0 133.0 135.0 135.0 136.0 137.0 139.0	130.0 131.0 132.0 133.0 135.0 136.0 138.0 139.0	130.0 131.0 132.0 133.0 135.0 135.0 138.0 138.0
1 131.0 1 132.0 2 134.0 1 136.0 1 136.0 2 138.0 2 138.0 2 1 139.0	131.0 132.0 134.0 135.0 136.0 138.0 138.0	131.0 132.0 133.0 135.0 136.0 138.0 138.0
132.0 1 133.0 1 135.0 1 136.0 1 136.0 1 139.0 2 138.0 2 138.0 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	132.0 133.0 134.0 135.0 137.0 138.0 139.0	132.0 133.0 135.0 135.0 138.0 138.0 139.0
1 133.0 2 134.0 1 135.0 1 135.0 1 137.0 2 138.0 2 2 2 3 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	133.0 134.0 135.0 137.0 138.0 139.0	133.0 135.0 135.0 137.0 138.0 139.0
135.0 1 135.0 1 136.0 1 137.0 2 138.0 2 2 2 2 2 2 2 3 3 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	135.0 135.0 137.0 138.0 139.0	135.0 135.0 136.0 138.0 139.0
1 135.0 1 136.0 1 137.0 2 138.0 2 138.0 3 2 139.0	135.0 136.0 137.0 138.0 139.0	135.0 136.0 137.0 138.0 139.0
1 136.0 1 137.0 2 138.0 1 139.0 2 2 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	136.0 137.0 138.0 139.0	136.0 137.0 138.0 139.0
138.0 2 138.0 3 139.0 5 2 2 2 2 2 2 3 3 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	138.0 138.0 139.0	138.0
2 138.0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	138.0	138.0
139.0 2 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4	139.0	139.0
	2 1 2	
	1 1 2	
	1 1 9	7 6
	5	9
	5	5



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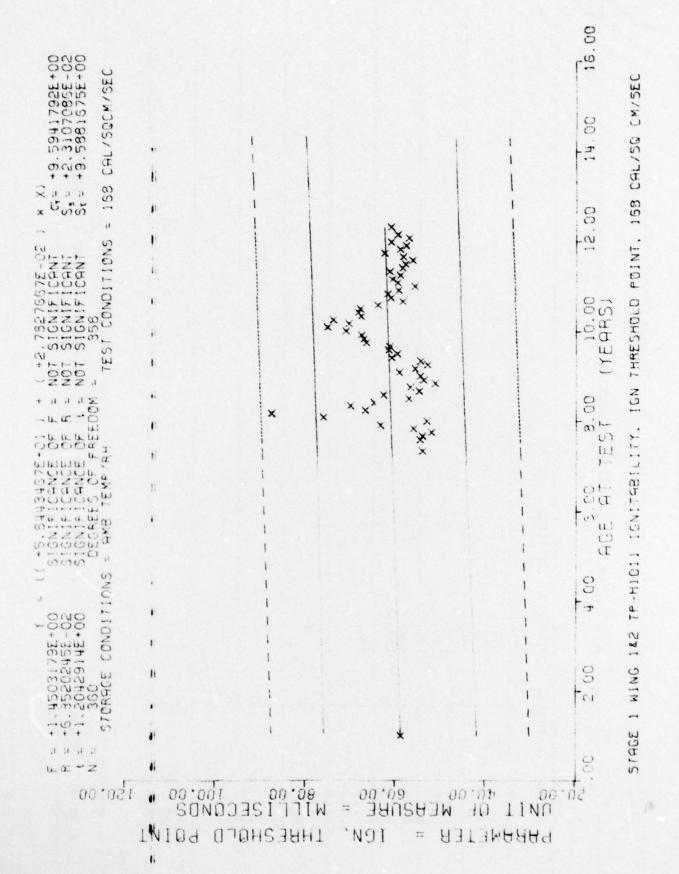
SAMPLE SIZE SUMMARY

o o w + w 3 4 o c v

TGA PERCENT WEIGHT LOSS AT IGNITION, 9 DEG C RISE/MIN

STAGE 1

MING 2



*** SAMPLE SIZE SUMMARY ***

NR	5	3	2	2	9	1	1	2	2																
(MONTHS)	139.0		141.0	142.0	143.0	144.0	145.0		148.0																
SAMPLES	12	9	01	٥	9	11	9	œ	80	6	2	11	1	01	80	1	9	S	4	သ	11	-	3	7	S
AGE (MONTHS)	114.0	115.0	0.911	117.0	118.0	119.0	170.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0
SAMPLES	3	1	7	,	1	.7	3	2	4	4	10	7	97	20	6	6	۵	3	1	12	9	~	æ	71	,
AGE (HON THS)	12.0	88.0	0.16	92.0	93.0	0.46	95.0	0.96	97.0	0.86	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	:10.0	111.0	112.0	113.0

STAGE I WING 162 TP-H1011 IGNITABILITY, IGN THRESHOLD POINT, 168 CAL/SQ CM/SEC

Figure 61

*** SAMPLE SIZE SUMMARY ***

AGE (MONTHS)	SAMPLES	AGE (MONTHS)	NR SAMPLES	AGE (MONTHS)	NR SAMPLES
62.0	•	91.0	72	117.0	71
63.0	8	92.0	103	118.0	32
0.99	,	93.0	100	119.0	91
67.0	20	0.46	130	120.0	54
66.0	71	65.0	84	121.0	50
70.0		96.0	55	122.0	48
71.0	*	98.0	54	123.0	0,4
72.0	3	0.66	12	124.0	28
74.0	36	100.0	91	125.0	04
75.0	10	101.0	32	126.0	23
76.0	16	102.0	16	127.0	40
77.0	20	103.0	တ	128.0	12
78.0	30	104.0	12	129.0	11
19.0	20	105.0	17	131.0	91
80.0	36	106.0	50	132.0	4
81.0	50	107.0	32	136.0	4
82.0	40	108.0	24	137.0	œ
83.0	47	109.0	32	140.0	œ
84.0	47	110.0	16	142.0	4
95.0	24	111.0	24	143.0	30
86.0	25	112.0	50	144.0	12
87.0	22	113.0	50	145.0	71
88.0	,	114.0	20		4
89.0	71	115.0	91		
0.06	99		40		

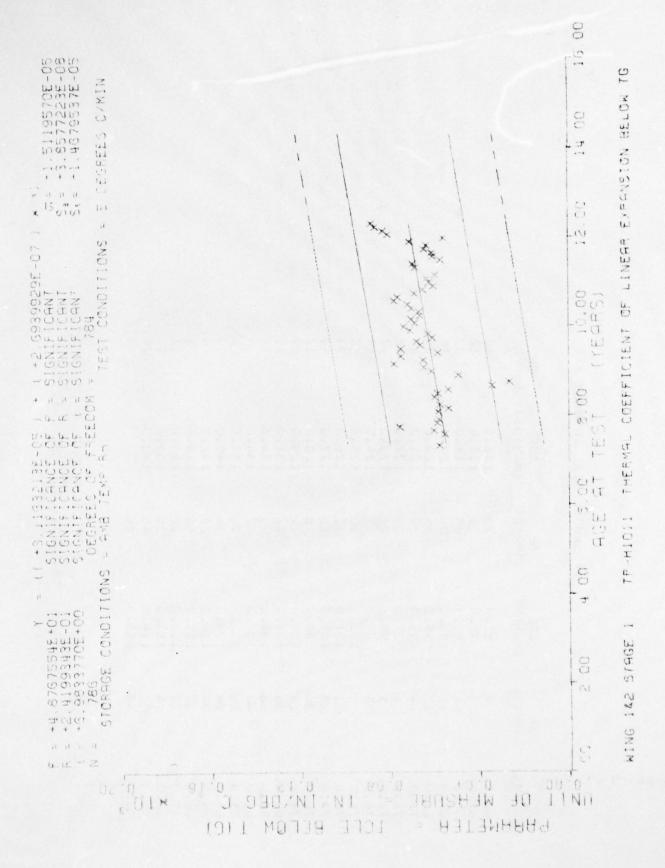
STAGE 1.WING A 68. SOL GEL. & EXTRACTABLE, TPH-1011

Figure 62

*** SAMPLE SIZE SUMMARY ***

NR SAMPLES	48	15	32	91	24	20	48	0,4	58	04	23	40	12	11	16	4	4	80	3	4	S	12	71	4	
AGE (MONTHS)	116.0	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	1.8.0	129.0	131.0	132.0	136.0	137.0	0.041	145.0	143.0	144.0	145.0	140.0	
NK SAMPLES	72	103	108	130	48	59	20	24	17	16	32	91	3	14	14	20	32	24	36	87	40	35	35	4.0	28
AGE (MUNTHS)	91.0	0.76	63.0	6.46	65.0	6.96	0.76	93.0	0.86	100.3	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	103.0	110.0	111.0	6.22.2	113.0	114.0	115.3
NR SAMPLES	4	*	+	7	71	+	•	,	35	7	15	77	36	23	30	95	42	54	54	54	32	?	,	7.2	23
AGE (nJNTHS)	0.20	63.0	0.00	0.70	63.0	70.07	71.0	72.0	74.0	15.0	76.0	17.0	76.0	79.0	86.0	31.0	0.20	33.0	0.40	0.50	0.90	87.0	0.80	0.68	90.00

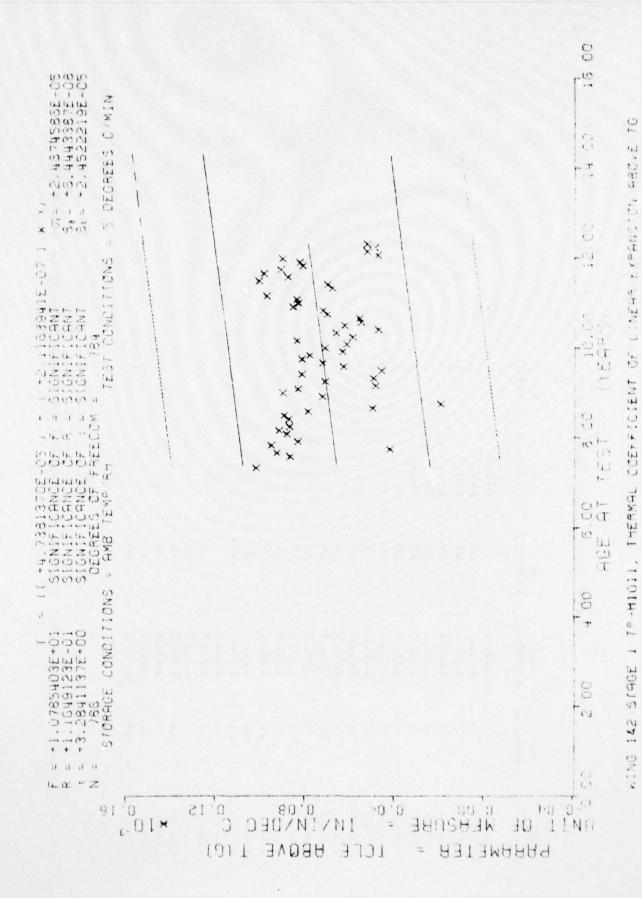
STAGE 1. AING AEB. TP-HIUII. SOL CEL. MT. SMELL RATIO



SAAPLE SIZE SUNMARY

NK SAMPLES	54	,5	3	3	(9	6																			
45E (304THS)	143.0	144.0	145.0	140.0	147.0	140.0																			
SAMPLES	15	77	43	67	0.7	15	13	10	,	. 17	7.0	24	30	00	47	5	12	15	,	2	77	3.5	٥	1.5	Li.
4.65 (MUNTHS)	117.0	118.0	0.811	1.33.3	121.0	177.0	143.0	124.0	1.25.0	120.0	1.27.0	123.0	1.29.0	1,000	1,11.0	1.52.0	1,55.0	134.0	130.0	1.37.0	136.3	139.0	140.0	141.0	142.0
LAMPLES	,	.,	,			17	**				,	1		7	^	•.7	7.7	4,7	,		.1	.,	. ~	77	57
13.4.2	2	0.1	34.03	23.67	6.4%	0.05	37.0	20.00	0.05	1.11.	7.707	1.33.0	3.4.	1.45.0	2.00.3	1.11.	1.3.8.0	1.35.0	2000		111.3	11.00	114.0	113.0	

TP-HIGHT TARMAL COEFFICIENT OF LINEAP EXPANSION BELOW TG 1 36 5 162 Sit of 1



SLMPLE SILE SUMMAKY

											1.															
NK	SAMPLES	24	67	3	3	3	3	-																		
AGE	(MONTHS)	143.0	144.0	145.0	140.0	147.0	148.0																			
ME	SAMPLES	19	47	43	25	5.0	15	- 13	18	5	21	18	24	3.0	30	5.7	5	1,	1.5	3	9	17	35	0	15	18
ACE	(NONTHS)	117.0	113.0	119.0	120.0	121.0	122.0	1.23.0	124.0	1.25.0	1,00.0	127.0	120.3	129.0	1.50.0	131.0	1.52.0	133.0	134.0	136.0	137.0	138.0	1.59.0	140.0	141.0	142.0
4.	JAMPLES		,	.)		. N	,		•	*		.1	77		.5	*	.,	7.7	+,7	.,	. 70	.0	-+7		17	13
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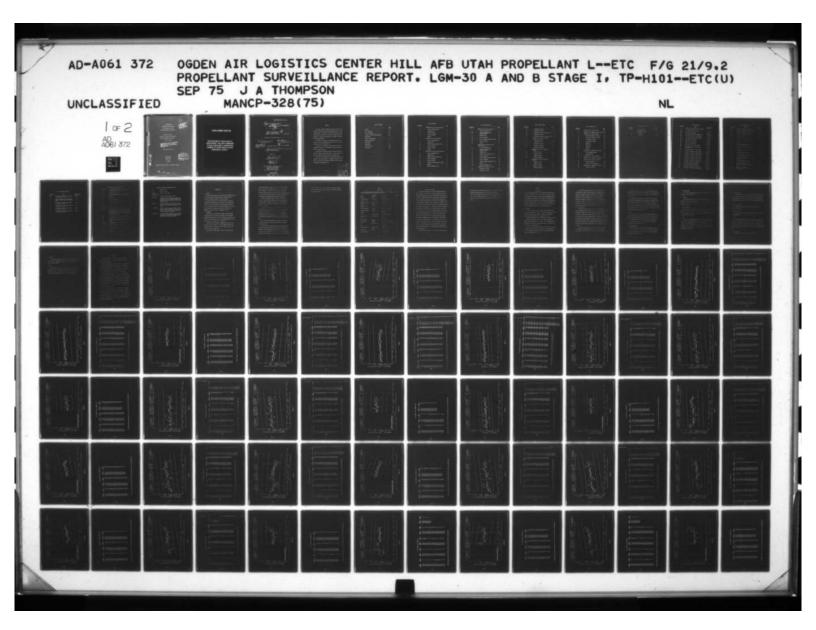
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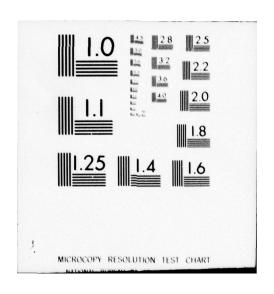
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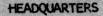
Each point on the regression plot represents the mean of all samples at that particular age. The number of specimens at each point is indicated on the sample size summary sheet on the page accompanying each regression plot.

KEY WORDS: Solid Propellant

Minuteman







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PROPELLANT
SURVEILLANCE REPORT
LGM-30A&B STAGE 1
TP-H1011

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ABSTRACT

This report contains propellant test results from cartons of TP-H1011 bulk propellant representing LGM-30A and & First Stage Minuteman Motors. This report is the ninth time that a statistical approach has been used to analyze First Stage bulk carton propellant. Testing was accomplished in accordance with MMEMP Project M62413M 4MP068P.

The purpose of testing was to determine and provide early warning of any serious degradation trends occurring in the propellant for service life predictions.

An analysis of all parameters indicate that no potential problems are expected in the propellant for at least two years past the oldest data point.

Data stored in the GO85 System were plotted utilizing the IBM 360-65 Computer and CAL-COMP Plotter. The data range at any age can be found by suitable inquiry of the GO85 System.

Each point on the regression plot represents the mean of all samples at that particular age. The number of specimens at each point is indicated on the sample size summary sheet on the page accompanying each regression plot.

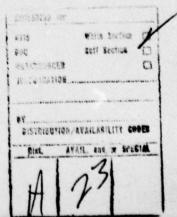


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29В	Zero Time Test Results	29 Jan 64
29C	Zero Time Test Results (Supplement 1)	30 Mar 64
29D	Zero Time Test Results (Aft Closure)	9 Jun 64
29E	Zero Time (Aft Closure Supplement 1)	24 Jun 64
29F	ATP Phase I Test Results	30 Mar 65
29G	ATP Phase I Test Results	19 Aug 65
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277	Surveillance Report LGM-30F & G Stage I, Phase A Series III, (TP-H1011)	Oct 73
280	Surveillance Report LGM-30A & B Stage I, (TP-H1011)	Nov 73
288	Propellant Surveillance Report LGM-30A & B, Stage 1, TP-H1043	Mar 74
290	Propellant Surveillance Report LGM-30F & G, Stage 1, Phase B, Series I, TP-H1011	Mar 74
300	Minuteman Stage 1 Motor Reliability Improvement Program Surveillance	May 74

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302	Propellant Surveillance Report LGM-30 A & B Stage 1, TP-H1011	Nov 74
313	Stage 1 Propellant Surveillance Report, Propellant Containing Glacial Acrylic Acid	Oct 74
315	Propellant Surveillance Report LGM-30 F & G Stage 1, TP-H1011	Jan 75
316	Propellant Surveillance Report LGM-30 A & B Stage 1, TP-H1011	Feb 75
321	Propellant Surveillance Report LGM-30 F & G Stage 1, TP-H1011	Apr 75
325	Propellant Surveillance Report LCM-30 A & B Stage 1, TP-H1011	June 75

GLOSSARY OF TERMS AND ABBREVIATIONS

Aging Trend A change in properties or performance resulting from aging of material or component

CSA Cross Sectional Area

Modulus (psi), defined as stress divided by strain along the initial linear portion of the

EB End Bonded

EGL Effective Gage Length

em Strain at maximum stress

er Strain at rupture

B Dogbone

Degradation Gradual deterioration of properties or performance

"F" ratio

The ratio of the variance accounted for by the regression function to the random unexplained variance. The regression function having the most significant "F" ratio is used for plotting data. The ratio is also used in detecting significant changes in random variation between

succeeding time points.

JANNAF Joint Army, Navy, NASA, Air Force Committee

MANCP Propellant Lab Section at Ogden Air Logistics Center

OOALC Ogden Air Logistics Center, Air Force Logistics

Command

Regression The general form of the regression equation

Equation is Y = a + bx

Regression Line representing mean test values with respect

Line to time

Standard error of estimate of the regression coefficient

Se or Sy.X Standard Deviation of the data about the regression line

GLOSSARY OF TERMS AND ABBREVIATIONS (cont)

Sm Maximum Stress

Sr Stress at rupture

Standard Square root of variance Deviation (Sy)

Strain Rate Crosshead speed divided by the EGL

"t" test

A statistical test used to detect significant differences between a measured parameter and an expected value of the parameter (determines if regression slope differs from zero at the 95% confidence level)

Variance The sum of squares of deviations of the test results from the mean of the series after division by one less than the total number of test results

3 Sigma Band The area between the upper and lower 3 sigma limit. It can be expected that 99.73% of the inventory represented by the test samples would fall within this range assuming that the population is normally distributed.

90-90 Band It can be stated with 90% confidence that 90% of the inventory represented by the test samples would fall within this range assuming that the population is normally distributed.

INTRODUCTION

A. PURPOSE:

Quality assurance tests have been conducted for thirteen years on First Stage LGM-30A and B Minuteman Motor Propellant blocks to evaluate the effects of aging on TP-H1011 propellant.

Engineering, should provide early warning if serious degradation trends occur. Annual evaluation of the propellant provide data that can be directly input into engineering reliability and service life predictions. Testing was performed in accordance with MMEMP Directive GTD-1C and GTD-1C Amendments 1 and 2.

B. BACKGROUND:

Testing was first accomplished at MANCP on LGM-3CA TP-H1011 propellant blocks in 1963 and was designated Zero-Time Testing (MAGCP Report Nrs 29B, 29C and 29F). Subsequent testing was accomplished at approximately 24 month intervals (MAGCP Report Nrs 29G, 29H - Phase I; 76 - Phase II; 181 - Phase III).

LGM-30B Zero-Time testing was accomplished in 1954 with subsequent testing at intervals of 24 months (MAGCP Report Nrs 32A - Zero-Time; 32C, 49, 53, 55, 58, 61, 66 - Phase I; 118, 126, 130 - Phase II; 195, 268 - Phase III).

Reports prior to MAGCP Report Nr 223(72) contained raw data

using sigma relation to compare to Zero-Time variance. MANCP
Report Nr 259 (72) published in April of 1972 contained all the
data on LGM-30A, B, F and G in the G085 System at that time.
Report Nrs 258 (72), 268 (73), 280 (73) reported LGM-30A and B data
in statistical analysis by itself. This report is the fifth time
that LGM-30A and B data have been reported in this manner.

Zero-Time testing was started as soon as possible after receipt of the propellant by MANCP. Data from these tests were used to establish a base line for each test to which subsequent test data (ATP - Accelerated Test Plan) were compared in the reports listed above.

The LGM-30A and B propellant test matrix (Table 1) was used to determine the number of specimens to be taken from each propellant loaf and the specific test or tests to which these specimens were subjected. Low rate tensile and hardness specimens were taken from all LGM-30A and B blocks. Specimens for other physical and combustion tests were taken from every seventh block.

Some tests were not conducted at the earlier test periods (0-6 years) and therefore data are not available for inclusion in the regressions.

Post cure data for the first few years after casting usually shows more change in data results. To see how this affects the regressions, analyses were performed on data starting at six years after zero time to determine if the regression curves were significantly different. Separate regressions were run on all but the very

low rate tensile tests. Where a significant change was evident, the regressions are included in this report and labeled "included for comparison only".

Table 1

Test Program

The test matrix is taken from GTD-1C, Amendment 2, and the rests, conditions, number of specimens and test methods are listed below.

			Per
Test	Conditions	Description	Cond
Hardness	10 Sec	Dogbone Ends	3
Low Rate Tensile	2.0 in/min	1/2" JANNAF Dogbone	3
High Rate Tensile	1750 in/min	3/4" Dogbone	3
High Rate Triaxial Tensile	600 psi, 1750 in/min	3/4" GL Rail End Bonded	1
Low Rate Biaxial Tensile	0.2 in/min	3/4" GL Rail End Bond	1
Stress Relaxation	3 % & 5%	1/2" x 1/2" x 4" EB	3
Dynamic Response	70 gm ct wt	3.3" dia x .33" disc	1
Sol Gel		1/2" x 1/2"	8
VLR	2×10^{-3} in/min	1/2" JANNAF Dogbone	3
Ignitability	168 cal/cm ² sec	.050" wafer	3
TCLE		.200" wafer	3
Pressure Time	500 psi	1/2" x 3/8" x 1"	3
Burning Rate	1000 psi	.156" x .156" x 5" Strand	3
DTA	12°C Rise/min	.040" wafer	3
DSC		.040" wafer	3
Poisson's Ratio	77°F + 2° 15% Strain	.50" x .50" x 4"	6
Tear Energy	70°F ± 2°	0.1" x 1.18" x 3"	6
Failure Envelope		JANNAF Dogbone	3

STATISTICAL APPROACH

The linear regression model is used throughout this report. Where data trends and variances appeared to deviate from a linear model, other models were tried but no improvement over a linear fit was found. Individual data points from different time periods were used to escablish a least squares trend line for the data. The variance about the regression line, obtained using individual values of the dependent variable, was used to compute a tolerance interval such that at the 90% confidence level 90% of the sample distribution falls within this interval. This tolerance interval was extrapolated to a maximum of 24 months into the future from age of the oldest motor tested. The "t" values and the significance of this statistic, which are reported for each regression model, give an indication of the "statistical significance" of the slope of the trend line as compared to a line of zero slope. Data were plotted by computer. The "y" axis is computed so that the values at one inch intervals are peculiar to the data spread of the parameter tested. Plotted data points represent means at the particular ages at which testing occurred. The number of specimens at each age point is indicated on the sample size summary sheet accompanying each regression plot. Variance at each test age can be determined by consulting the GO85 data storage system.

In addition, after analyzing the regressions which included the

data generated over the total time period, some of the tests indicated considerable change during the first few years of testing. A seperate linear regression was calculated starting at six years after zero time for comparison purposes only. Where a significant difference was observed, the comparison only data were included in this report.

DRAFT #2

TEST RESULTS

From the general appearance of the regressions, more variation in data were evident over the first few years of testing. In order to determine how the data were affected, Service Engineering requested that an analysis be performed on data starting at six years after zero time testing to determine if the regressions were significantly different. Where a significant change was evident, regressions were included for comparison only. This was done to see if a post cure effect was significantly affecting the regression curves.

A. TENSILE:

Very low rate tensile testing started approximately six years after the test program was initiated. The strains show a statistically significant decrease, the stresses no change, and the modulus a statistically significant increase (Figures 1 thru 5).

The low rate regressions show a statistically significant decrease for strains while the stresses and modulus show a statistically significant increase (Figures 6 thru 10). For the comparison regression, only maximum stress shows a change which went from a significant to a non-significant change (Figure 7A).

The biaxial testing shows no change in the strains. The stresses and modulus show a statistically significant increase (Figures 11 thru 15). The comparison only regressions for this time period shows no significant change (Figure 14A & 15A).

For high rate tensile testing, the strain at maximum stress and modulus show a statistically significant increase, however, the change is very gradual. Strain at rupture shows a statistically significant decrease (Figures 16 thru 20). The comparison only regression for strain at maximum stress (Figure 16A) shows a statistically significant increase with the slope being steeper than that shown in Figure 16. The comparison only regression for strain at rupture shows a statistically significant decrease (Figure 18A) which is noticably greater than for the regression showing all of the data (Figure 18).

For high rate triaxial tensile testing, strain at maximum stress shows a gradual statistical increase with the strain at rupture showing a decrease. Maximum stress, stress at rupture and modulus show a statistically significant increase (Figures 21 thru 25). The comparison only regression for strain at maximum stress also shows a statistically significant increase (Figure 21A). However, the slope of the comparison only regression curve is greater than the regression curve which covers all of the data (Figure 21). For maximum stress (Figure 22A) stress at rupture (Figure 24A) and modulus (Figure 25A), significant changes are shown.

It should be noted that the strain at maximum stress for high rate testing is increasing gradually while the strain at maximum stress for low rate testing is decreasing slowly. This appears to be

anomalous behavior except that these same trends are seen in other propellants tested. However, from the analysis of the propellant data, it does not appear that significant degradation will occur within the next two years.

For the overall tensile tests, the slope of the curves show a gradual change or no change with respect to age. The low rate tensile regressions show a gradual decrease or no change for strains and a gradual increase or no change for stresses and modules. The high rate testing does not follow this pattern for strain at maximum stress which shows a gradual increase. However, the slope of the curves are gradual, and no operational problems are expected.

B. CREEP:

The test results show a statistically significant decrease for both the 10 and 12 pound load regressions (Figures 26 thru 35). These results correlate well with the strain results for tensile testing.

For the comparison only regressions, the 10 pound load at 500 and 1000 second regression show a change in trend which are not significant (Figures 20A and 30A).

C. STRESS RELAXATION:

Modulus at 3 and 5% show a statistically significant increase at all time periods, 10, 50, 100 and 1,000 seconds (Figures 36 thru 43). In all cases, the slope of the regression curves are gradual and no operational problems are expected.

D. CONSTANT STRAIN:

A statistically significant increase is shown. This increase is gradual as seen in Figure 44.

E. HARDNESS:

The propellant shows a statistically significant increase in hardness. This increase is gradual and correlates well with the tensile tests which show a decrease in strain and increase in stress properties (Figure 45).

F. DYNAMIC RESPONSE:

The storage shear modulus at 200 and 400 Hz shows a statistically significant decrease. The decrease is gradual (Figures 46 and 47).

The loss tangent shows statistically significant increase is gradual (Figures 48 and 49)

G. DTA:

There is a statistically significant decrease in the endotherm and first and second exotherms while the ignition temperature is showing a statistically significant increase. In all cases, the slope of the regressions curves are gradual which indicates that propellant combustion properties are changing very little and are not a problem at this time (Figures 50 thru 53).

H. PRESSURE TIME:

A statistically significant increase is shown in time to maximum pressure with the maximum pressure showing a statistically significant decrease (Figures 54 and 55). In both cases the slopes are gradual and no problems are expected for at least two years past the last data point.

I. HEAT OF EXPLOSION:

A statistically significant increase is shown for heat of explosion (Figure 56).

J. BURNING RATE:

The burning rate data shows a gradual statistically significant decrease (Figure 57).

K. TGA:

The TGA ignition temperature shows a statistically significant increase. It will be noted that the data after 10 years is noticeably higher than previous data. This may be caused by a change in instruments and will be further investigated to determine if this is instrument caused (Figure 58). The weight loss at ignition shows no change (Figure 59).

I.. IGNITABILITY:

The ignitability data shows no change (Figure 60).

M. SOL GEL:

A statistically significant increase for weight swell ratio and a statistically significant decrease for percent extractables is shown (Figures 61 and 62).

N. TCLE:

The thermal coefficient of linear expansion below and above the glass transition point shows a statistically significant increase.

However, this increase is gradual and no problems are expected for at least two years beyond the last data point (Figures 63 and 64).

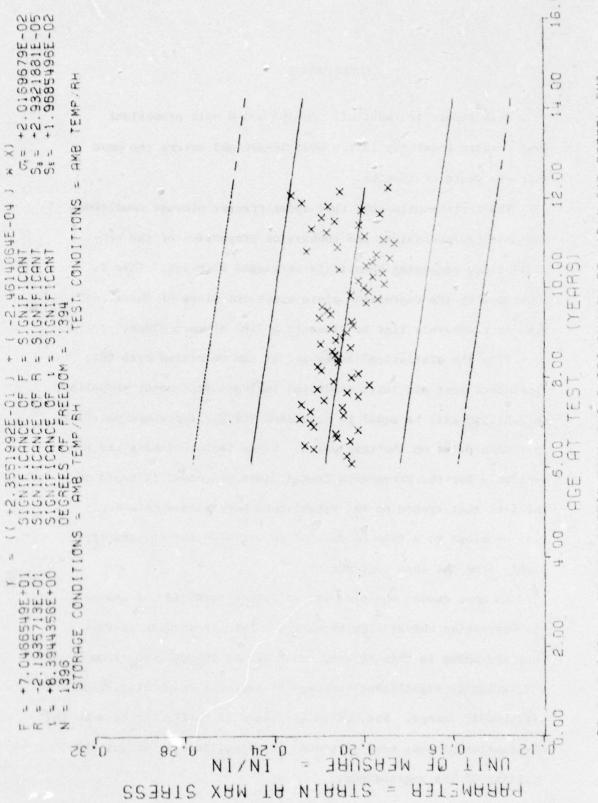
CONCLUSIONS

This report includes all LGM-3QA and B bulk propellant test results presently in the GO85 System and covers the past thirteen years of testing.

The test results show that under present storage conditions the physical/mechanical and combustion properties of the propellant are remaining relatively unchanged with age. This is indicated by the regression plots where the slope of the trend line is relatively flat or close to a line of zero slope.

From the statistical analyses, it can be stated with 90% confidence that all tests conducted indicate that motor propellant reliability will be equal to or exceed 90% for two years past the last data point on the regression. Since failure limits are not available for the parameters tested, this statement is based on the fact that trends so far established have slopes relatively flat or close to a line of zero slope and have not changed appreciably from the last test period.

In most cases, the six year to latest data did not change the regression curves significantly. Where there were changes, they are shown in this report. Most of the changes went from a statistically significant increase or decrease to no statistically significant change. For LGM-30 A&B, there is sufficient data so that elimination of post cure data does not significantly affect the validity of the regressions.



PROPELLENT E36 IN/NIN, TP-HIDI1 002 (EM), CH3=0. STRESS MOX PT STRGIN ENSILE

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***	SAAPLES	111	36	77	33	52	71	51	16	14	:1	21	1.5	77	1.2	,	1.5	0	12	9	1	2	0			
30.0	(.: 34, 14, 51	1,55.0	1,25.0	127.0	1.000	129.0	150.0	131.0	132.0	153.0	134.0	135.0	130.0	1.7.0	130.0	139.0	143.0	141.0	142.0	143.0	175.0	1.000	147.0			
4.1	SAMPLES	4,	4.7	2.5	7.	6.7	*	2.2	1	*,*,		5.0	1.7	6.7	1,	1.5	77	7.7	12	2.7	24	5.5	**	7.1	77	70
30,4	L ACATACA 1	C.CC.	101.0	1.32.0	132.0	1.34.0	135.0	1.36.0	1.17.0	138.9	1.35.0	110.0	0.111	112.0	113.0	116.0	113.0	110.0	117.3	110.0	115.0	1.20.0	1.21.0	122.0	1.25.0	124.0
	2,11,11,1		140	1.0	1	,	33	77	6	Lo	- 10	0	4.3	2.2		10		1.5	,	"	(;	7	7.7	17	(;)	
	1 3.11.51		25.4		1	77.	03.3	0.17	36.				1.4%		5000	(7.0.0	1.1.		4		0.50		0.10	1	C. The

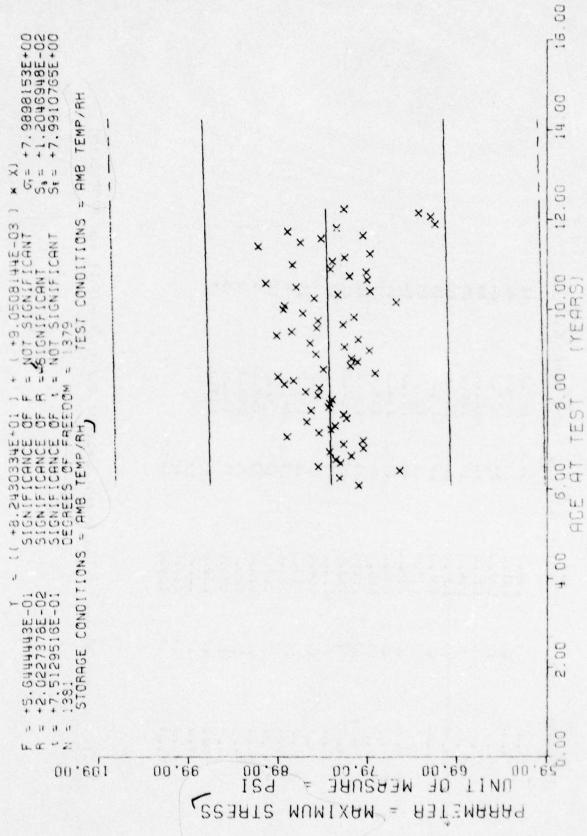
STANIN AT AND SPECIES (FA) (CHS=0.002 BAZMIN, TP-41011 AEB PPOPELLENT

PROPELLENT

IN/MIN, TP-HIDIL GAB

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STRESS, CHS-0.

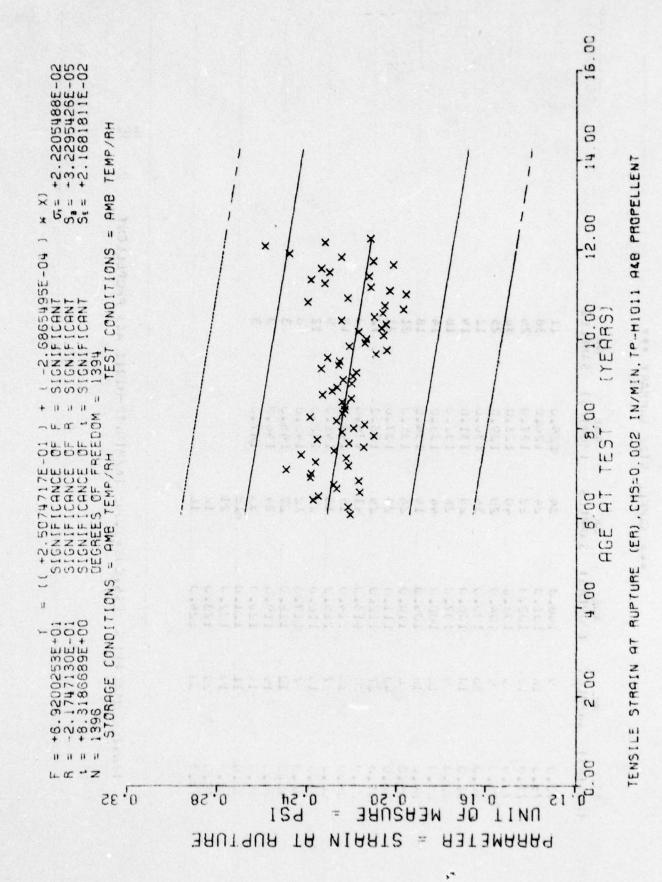


TENSILE MAXIMUM

*** SAMPLE SIZE SUPMARY ***

																	N. Carlot			1			-			
XX	SAMPLES	11	38	25	30	25	17	61	16	14	18	717	77	71		1.3	6	12	C	3	3	3				
Aue	(CACNTHS)	125.0	126.0	127.0	123.0	179.0	130.0	131.0	132.0	133.0	134.0	135.0	137.0	133.0	135.0	0.041	141.0	142.0	140.0	145.0	140.0	147.3	The same of the same of the same of			
AK	SAMPLES	34	57	2.2	4.0	20	3.6	£3	25	444	15	97	77	67	-11-	15		17	17		24	5.5	16	21	71	77
4.0E	(SHINDHE)	100.0	1,11.0	1,12.3	135.0	104.0	135.5	136.0	1.37.3	196.3	109.0	110.0	111.0	112.3	113.3	6.44.	115.3	116.0	117.3	1.16.3.	119.3	170.1	121.0	122.0	123.0	124.3
7447	SAMPLES		70	1e	,	5	30	1.3	7	Le	13	۵	4.3	1.7	50.	1.1	7	15	1	77	15	5.	11	1)	"	17
Ail	(131,1113)	12.3	13.3	S 77.0	73.0	475.1	Bu.u	81.3	6.78	E 5.3.3	1.4.1	0.50	0.06	67.0	6.50	0.85	5005	6.19	C	43.1	1.00%	1.36	20.0	C. 1.	35.0	

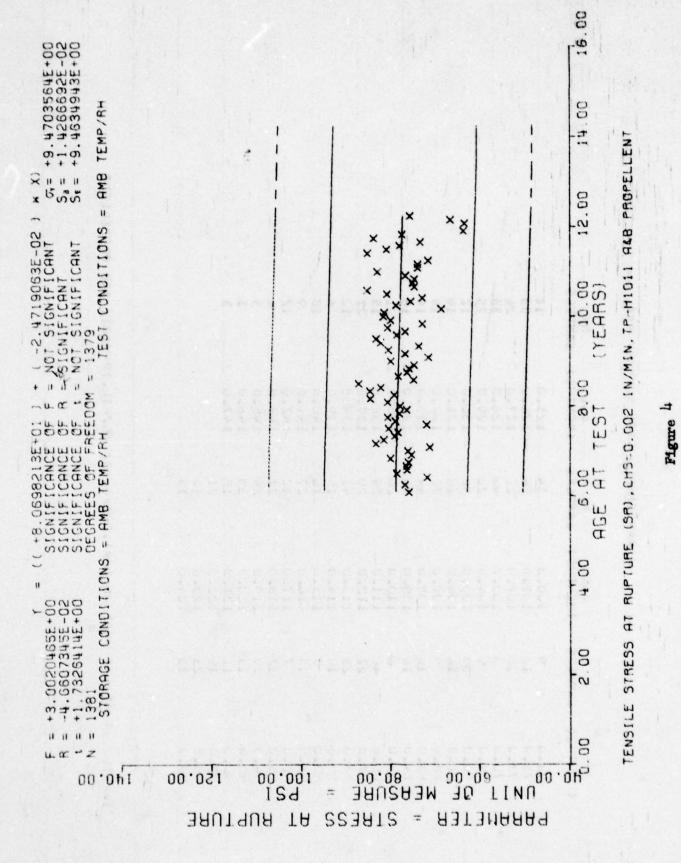
TEASILE MALANY STRESS, CHS=3.002 IN/MIN. TP-H1011 ASS PROPELLENT



*** SAMPLL SIZE SUMMARY ***

NK		38	97	38	52	. 12	19	87	14	18	77	15	21	77	9	18	6	12	9	3	3	3			
ALSE (MCNTHS)	125.0	126.0	127.0	-128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	143.0	145.0	140.0	141.0			
ANDLES SANDLES	46	54	77	74	20	36	26	28	44	19	97	24	. 22	14.	- 15	14	2.7	112	. 27	5.4	53	81	21	71	15
(MONTHS)	1.0.0	101.0	102.0	103.0	104.0	105.0	136.0	107.0	1.18.0	1.39.0	0.011	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	0.011	120.0	121.0	122.0	1,23.0	124.0
SELGMAS	6	10	27	7	5	33	71	0	lo	71	3	27	7.7	57	01	,	15	1	12	67	3	11	51	23	33
168.0 (1,047.05)	15.0	75.0	711.3	76.3	19.0	0.00	81.3	62.0	B. C3	1.4.11	33.0	7.77	57.0	83.0	0.00	50.0	91.0	6.76	63.3	94.3	45.0	74.	17.0	96.0	32.1

TEASILE ST. 41 % AT RUPIUME (EM), CAS=0.002 IN/MIN, IP-MIOII AEB PROPELLENT



** SAMPLE SIZE SUMARY ***

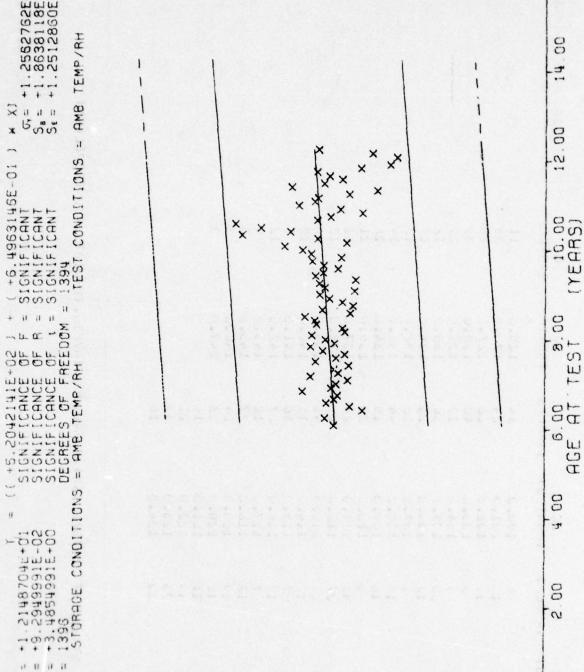
NA SAMPLES	111	34	25	33	25	12	67	1.3	1.4	16	17	77	12	9	13	5	71	9	3	3	9				
40c (40h THS)	125.0	120.0	147.0	1.28.0	129.0	150.0	131.0	132.0	1.53.0	134.0	135.0	137.0	138.0	133.0	1,000	141.0	142.0	143.0	145.0	146.0	141.0				
SAMPLES	3.4	24	77	7.	20	25	6.3	5.5	**	67	20	5.4	25.	15	15	Ic	2.7	71	2.7	5.4	23	16	77	71	16
46.2 (20MTHS)	100.0	131.0	132.0	135.0	104.0	105.0	1.35.0	107.0	138.0	109.1	110.0	111.0	112.0	115.0	1.4.0	115.0	116.0	117.0	116.J	119.0	1.20.0	121.0	122.0	123.0	124.0
64.00 SA1PLES	Ċ,	1.	13	,	,	3	1.		. 1	1.0	,	, t.	17	3	10	7	15	1	. 12	67	11	11	17	23	יי
AJE (ch.# 1115.)	Z 873.0	75.3	17.3	75	73.1	33.1	L. 1.4.3	27.0	C.Cr I	64.3	D. CR	0.0%		1 3	0.40		C. 160	0.2.	53.0	0.40	0.46	" ". ".	1.1.0	0.36	7.36 ×

This still stills at auptore (SRI, CAS=0.002 IN/MIN, TP-HIOLI AEB PROPELLENT

11 NU 00.01

MERSURE =

PARAMETER = MODULUS



+1.2562762E+02 +1.8638118E-01 +1.2512860E+02

* 6 2 2 2

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TENSILE MODULUS (E), CHS=0.002 IN/MIN, TP-HI011 A&B PROPELLENT

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129 00.07

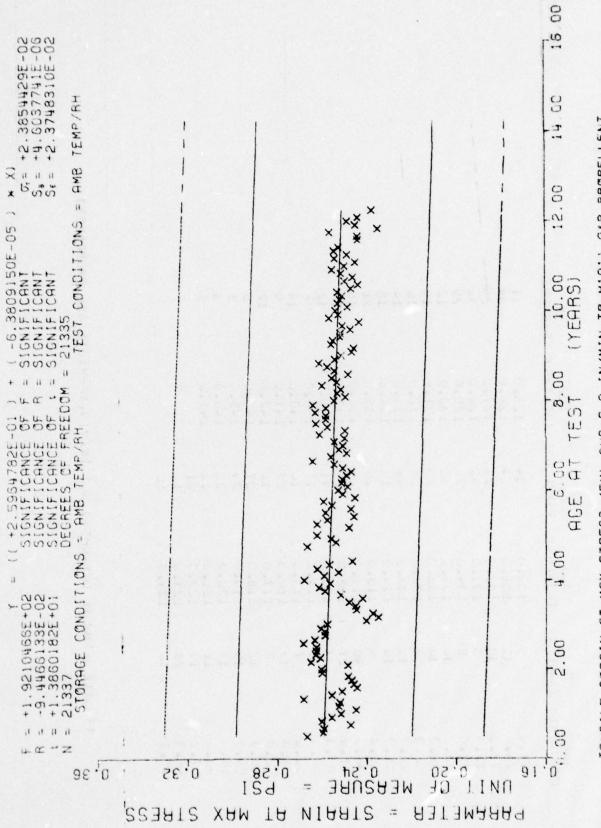
00.06

,01×

*** SANPLE SIZE SUMMARY ***

SAMPLES	==	38	25	35	55	12	19	118	+1	18	21	15	21	12	9	1.3	6	12	9	3	?	17			
ASE (ACNTHS)	125.0	176.6	127.3	120.0	129.0	130.0	131.0	132.0	135.0	134.0	135.0	156.0	137.0	130.0	135.0	140.0	141.0	142.0	143.0	145.0	140.0	147.0			
SAMPLES	7.	57	7.7	24	20	36	- 2.	5.7	1,1	7.	20	47	-2.3	14	51	10	2.1	17	17	2.4	33	10	7.7	71	77
AGE (#JAFFES)	130.0	131.0	102.0	0.561	134.0	135.0	136.3	137.0	133.3	139.0	110.0	111.3	112.3	113.0	114.3	115.0	116.3	117.0	118.0	119.0	120.0	121.0	1.22.)	123.0	124.0
The SAMPLES	,	23	13	.,	6	30	61	,	13	10	9	0.5	77	2.3		,	17	7	. 77	15	1.3	11	51	23	27
ASC (PULTES)	(3.0	13.0	11.	7)	19.0	30.0	C. 180 b	1	E. 11.3	34.0	55.1	30.3	37.0	435	. W. J.	7.3.5	6.12	52.0	93.3	0	1.2.1	313.611	21.0	1.35	70.0

TELSILE ABBULUS (E), CHS=0.362 IN/MIN, TP-HIUIL AEB PROPELLENT

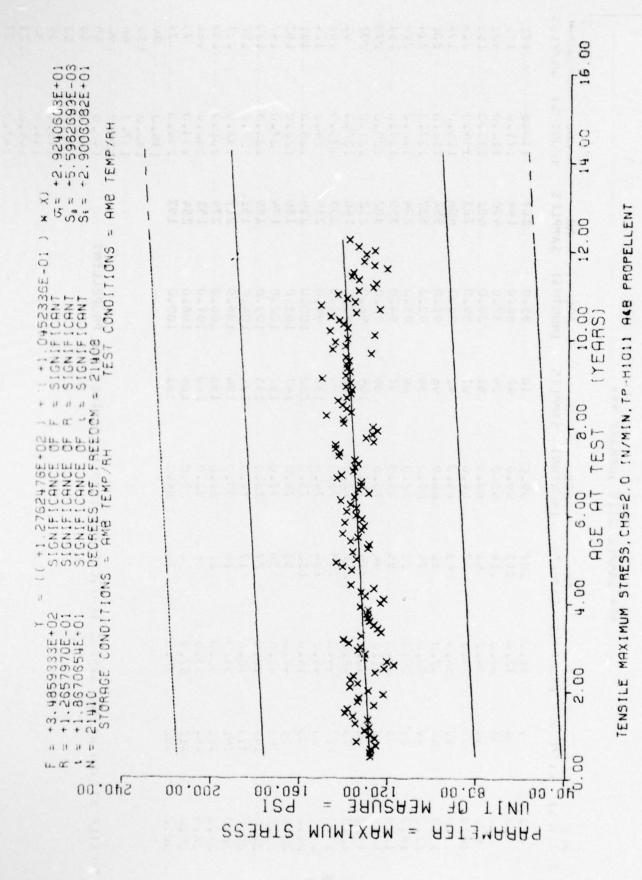


TENSILE STRAIN OF MAX STRESS (EM), CHS=2.0 IN/MIN, TP-HIOII A&B PROPELLENT

d

- 9	, A	171	17.1	505	153	213	111	757	21.4	717	153	17)	107	3	153	171	171	152	141	1.51	151	1.3	15.1	101	7.5		66	135	99	- 96	64	64	55	39	30	27	27
	(AUTHER)	110.0	-	112.0	5		115.0	116.0	117.0	110.0		120.0	171.0	22	1.43.3	0.47	1.5.3	120.0	27.0	123.0	129.0	1.53.0	1.11.1	136.0	133.0	134.3	135.3	135.0	137.3	135.0	1.40.0	141.0	1.2.0	1.43.0	144.0	145.0	
2	SAMPLES	3.07	144	470	682	783	506	558	527	294	359	302	212	140	235	512	517	186	174	185	151	217	274	153	254	151									-		
AC.	(MONTHS)	85.0	86.0	97.0	36.0	89.0	0.06	91.0	92.0	93.0	0.46	95.0	0.96	97.0	0.36	0.66	10000	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	0.601					B PROPELLENT						
Ħ	SAMPLES	18	42	24	51	81	74	96	39	60	1.5	86	165	1.42	6.6	133	252	147	157	153	134	194	153	560	166	1.85					2-H1011 AEB						
43.6	(MONTHS)	59.0	0.00	62.0	€3.0 =	64.0	65.0	66.0	67.3	69.3	6.85	70.07	71.0	72.0	73.0	74.0	75.0	76.0	77.0	18.0	79.0	30.0	81.0	6.78	83.0	84.0					U IM/MIN, 12-H1011						
2	SAMPLES	307	215	114	15	57	63	95	7.5	63	5.4	94	917	241	153	161	130	53	36	2.7	17	16	2.1	6	3	.13					(EM) , CHS=2.						
00 8	(MONTHS)	31.0	32.0	0.30	34.0	35.0	36.3	17.0	34.0	55.3	40.0	61.0	45.0	+2.3	44.0	45.0	45.0	47.0	48.0	45.0	50.0	51.0	52.0	53.0	57.0	58.3					STRESS				1		
00	3,101.5	•	iı	įį			4,	4.1	ţ	ÇĴ	7.	55	4.2	. 27	121	io		75	63	145	713	757	151	35+	111	765					ALL AL ILL						
	(1.1.1.1)	3	2 C.J.		3	10.00	FED FE	1.1.0	2.	14.3	15.0	10.0	17.0			()		0.77	23.0	24.0	25.0	50.0	21.0	70.07	07	20.0					Tri Silf ST						

THE STATE AT MAK STRESS (EM) , CHS=2.0 IM/MIN, TP-HIOLI A&B PROPELLENT



SAMPLES	111	1/1	30.2		213	1.53	20.	+17	117		(71	107	- 2	150	17.1	-11-	797	141	133	151	125	151	191	15	1,	56	135	00	. 77	96	64	63	53	000	3.5	2.2
(PICMTPS)	1110.0	111.0	1.2.3	113.	114.3	115.1	116.1	117.3	114.3	115.0	120.0	121.0	122.0	1.23.0	17.4.3	Liter	126.0	0.724	1.49.1	127.3	50.0	7-1-1	132.1	1,23.0	Lived	135.0	136.0	137.0	134.0	139.0	1.40.3	141.0	1.42.0	143.0	144.	0 271
SAMPLES	307	141	410	683	783	205	558	527	294	361	302	212	140	235	516	517	186	174	189	151	217	272	153	254	197											
(MONTHS)	85.0	86.0	87.0	88.0	0.68	0.06	91.0	95.0	93.0	0.46	95.0	0.96	97.0	0.86	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	0.601					PRUPELLENI						
SAMPLES	13	42	24	21	31	45	96	39	69	176	98	165	145	66	133	252	141	157	153	134	194	153	200	166	163					ACB						
(MUNTHS)	59.0	60.0	62.0	63.0	64.0	0.50	0.90	67.0	0.80	69.0	70.0	71.0	72.0	73.0	74.0	75.0	16.0	17.0	78.0	0.67	30.0	81.0	92.0	42.0	34.0					I TO HIN I DIE TO II						
SAMPLES	307	215	114	16	57	63	56	75	90	54	40	216	747	150	76.7	150	53	36	7.7	17	10	17	3	0	13					?						
(ACATHS)	31.0		33.0	34.0	35.0	30.0	37.0	38.0	39.0	,0.04	41.0	42.0	43.0	44.0	45.0	4	47.0	43.0	49.0	50.3	51.0	54.0	53.0	61.0	55.0					STAGESTON CHS=2						
34.01.3		55	5,5		10	(+)	64,	4.4	ij	4.3	6.3	4.2	75	17.1	(3)	35	5:	613	145	21.5	757	1.55	17.1		392					E MALLIA						
Let This	0.0	0.1	5 5.3	0.6	10.01	11.0		13.6	14.0	15.3	16.1	17.0	16.0	10.0	0.00	11.3	44.00	6.57	6.47	25.3	L	2100	20.0	0.47	17.1					11.15122						

TENSILE MAILLIA SINESS, CHS=2.0 IN/MIN, IP-HIDII AEB PROPELLENT

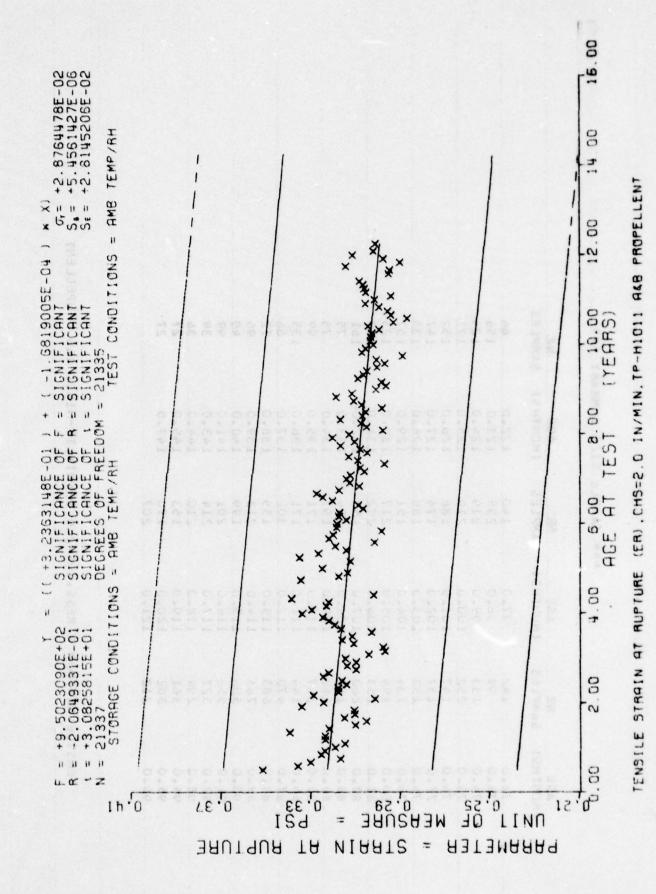
TENSILE MAXIMUM STRESS, CHS=2.0 IN/MIN, TP-HI011 A&B PROPELLENT

Figure 7A

*** SAMPLE SIZE SUMMARY ***

AGE	-	122.0	123.0	124.0	125.0	126.0	127.0	128.0		130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	143.0	144.0	145.0	147.0	
2		140	235	517	219	180	171	180	151	21.	27,	15:	254	161	171	171 ×	30,	15	213	199	707	214	77.	153	170	
AGE	(MUNTHS	97.0	98.0	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	
NR	SAMPLES	747	66	133	252	141	151	153	134	167	153	760	991	183	307	144	470	683	783	506	550	527	567	195	305	
AGE	(MONTHS)	72.0	73.0	74.0	75.0	16.0	77.0	76.0	79.0	80.0	81.0	82.0	83.0	84.0	85.0	0.90	87.0	88.0	0.48	0.00	0.16	92.0	92.0	0.46	95.0	0

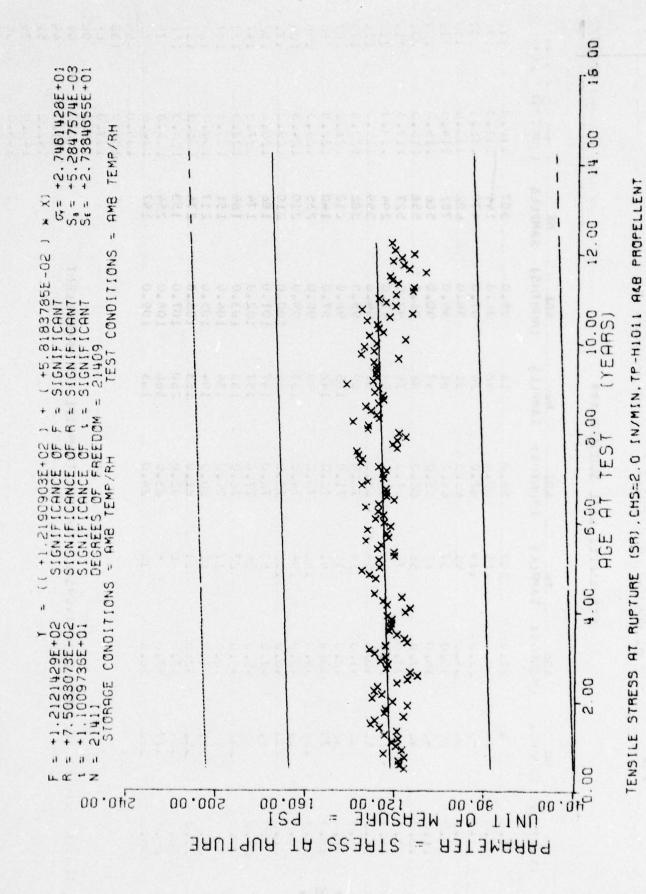
TENSILE MAXIMUM STRESS, CHS=2.0 IN/MIN. TP-HIOII A&B PROPELLENT



- 30 -

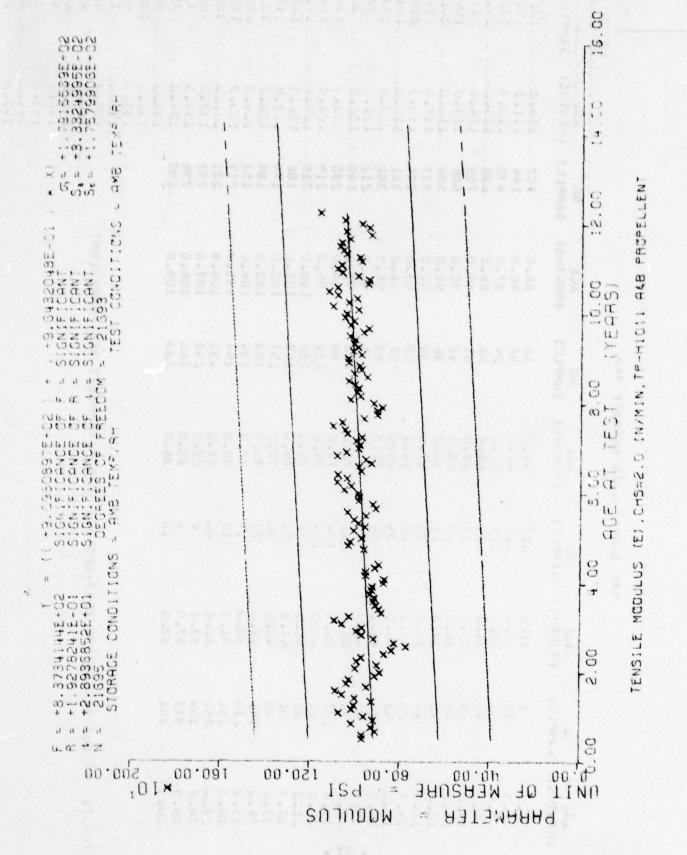
25.0 1.0 2.0 1.0 2.0 1.0 2.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1		1. 1ch 1.	(MCMTHS)	CAMPIEC	(MUNITHS)	SAMPLES	(MINTHS)	SAMPIES	Collector	SAMOI SE
11.0 367 45 40 14 35.0 307 11.10 12.				231-662						7 11 11
144 111.0 144 145.0 144 111.0 144 111.0 144 111.0 144 111.0 144 144 145.0 144 144 144.0 144 144.0 144 144.0 144.	7	•	31.0	367	59.0	1.3	35.0	307	1.00.1	17.
11	1	"	32.0	-15	0.00	+5	34.0	144		17.1
10		2	53.0	114	62.0	57	87.0	470	412.3	111
## 95.0 57 65.0 81 89.0 783 114.0 ## 55.0 6.2 65.0 95 91.0 556 115.0 ## 55.0 6.2 65.0 95 91.0 556 117.0 ## 55.0 6.2 65.0 97.0 557 117.0 ## 55.0 6.2 65.0 97.0 557 117.0 ## 55.0 6.2 65.0 97.0 557 117.0 ## 55.0 6.2 6.3 97.0 557 117.0 ## 55.0 6.2 6.3 97.0 557 117.0 ## 55.0 6.2 6.3 97.0 57.0 140.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 15.0 ## 55.0 6.2 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	-	54	Lest	16	Cort	51	88.0	4.82	115.0	15.
4. 35.0 62 65.0 42 95.0 566 115.4 4. 51.0 56 65.0 69 95 92.0 557 117.3 4. 51.0 56 65.0 69 92.0 557 117.3 4. 51.0 54 65.0 69 92.0 557 117.3 4. 51.0 54 70.0 39 95.0 254 117.3 4. 51.0 54 70.0 39 95.0 255 117.3 4. 51.0 15.0 17.0 183 99.0 215 127.3 4. 51.0 15.0 17.0 184 102.0 117.3 5. 51.0 52 70.0 147 101.0 186 125.3 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 157 102.0 5. 51.0 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52 70.0 102.0 5. 52	45	59	15.0	5.7	64.0	81	0.68	783	114.0	213
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#5.0		177	44.3	757	75.0	65	0.36	235	1,23.3	151,
51 47.0 52 100.0 215 125.1 5.0 157 100.0 215 125.1 5.0 147 101.0 18c 125.1 5.0 147 101.0 18c 125.1 5.0 147 101.0 18c 125.1 5.0 157 102.0 174 127.0 157 102.0 174 127.0 157 102.0 174 127.0 157 102.0 174 127.0 158 102.0 151 127.0 5.0 157 127.0 158 105.0 274 127.0 127		3	6.04	763	74.0	153	0.66	219	1.74.0	1.24
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93 48.0 36 77.0 157 102.0 174 127.0 127.0 151 127.0 152 103.0 189 124.0 127 78.0 153 103.0 189 124.0 127 127.0 134 104.0 151 127.0 137 104.0 151 127.0		5.	47.0	6)	76.0	141	101.0	186	1.25.0	157
210 50-0 17 75-0 134 104-0 151 120-0 210 50-0 17 75-0 134 104-0 151 120-0 211 51-0 16 80-0 194 105-0 217 120-0 212 52-0 21 81-0 153 106-0 274 120-0 213 52-0 2 6 83-0 105-0 154-0 153-0 214 57-0 6 83-0 105 108-0 254 153-0 217 57-0 10 84-0 103 109-0 197 154-0 218 25-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-0 105-0 105-0 105-0 105-0 105-0 25-0 25-0 105-	2	6.9	48.0	51	77.0	151	102.0	174	121.0	141
213 53.0 17 79.0 134 104.0 151 129.0 251 51.0 16 80.0 194 105.0 217 150.0 252 0 21 81.0 153 106.0 274 131.0 253.0 0 0 32.0 260 107.0 274 131.0 254.0 107.0 153 127.0 255.0 16 63.0 16 108.0 254 135.0 135.0 17.0 197.0 197.0 197.0 197.0 135.0 197.0	1	:,	n.6+	27	76.0	153	103.0	189	124.3	133
25. 51.0 16 80.0 194 105.0 217 150.0 2 274 151.0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		11.7	50.0	17	79.0	134	104.0	151	1.9.3	151
35. 32. 0 21 81.0 153 106.0 274 131.3 35. 53.0 c 32.0 260 107.0 153 122.3 35. 57.0 e 83.0 106 108.0 254 153.0 35. 57.0 10 24.0 103 109.0 197 154.0 150.0 157		137	51.1	16	80.0	164	105.0	217	150.0	143
354 53.0 107.0 153.0 122.0 254 123.0 125.0 217.0 153.0 122.0 217.0 153.0 156 156.0 157.0 254 153.0 157	7	- 17	52.0	17	0.18	153	106.0	274	Later	151
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55.0 109.0 197 154.0 155.0	0	111	57.0	9	83.0	106	108.0	254	153.0	75
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514ALA AT COPTURE (EP).CHS=2.0 IN/ATM.TP-HIDII AE8 PROPELLENT 140.U 142.0 143.0 145.0									136.0	135
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STGALL AT GUNTURE (ER).CHS=2.0 IN/AIN.TP-HIBII AEB PROPELLENT 1+0.0 141.0 142.0 145.0 145.0 145.0									1,9.0	95
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STANDANT APPUAR (ER) CHS=2.0 IN/AIN, IP-HISII AEB PROPELLENT TEHOLIC



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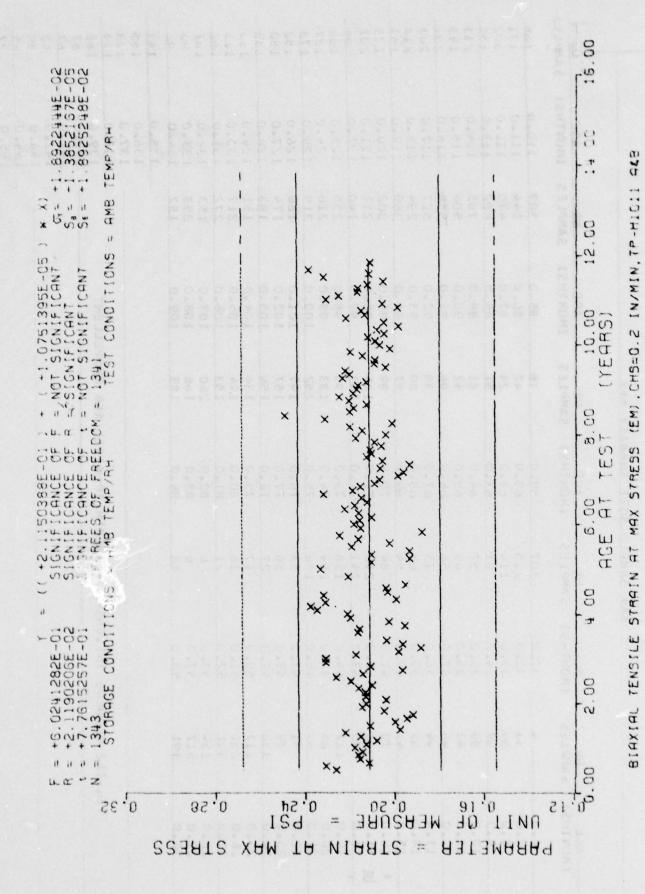
#\$ SAMPLES (MANTHS) SAMPLES (MONTHS) SAMPLES (MONTHS) SA ## 31.0	46,	**	AGE	37	AGE	MR	AGE	A.R.	AGE	.kr
1.00	(MONTHS)	SAMPLES	(AUNTHS)	SAMPLES	(MUNTHS)	SAMPLES	(MONTHS)	SAMPLES	(ACATHS)	SAMPLES
7.0 33 32.0 215 50.0 42 66.0 144 111.0 9.1 93 93.0 114 63.0 51 93.0 783 112.0 10.0 69 55.0 57 64.0 81 96.0 783 112.0 12.0 69 57.0 50 66.0 96 91.0 556 115.0 12.0 64 95.0 67 66.0 96 91.0 556 115.0 12.0 64 95.0 65 66.0 96 91.0 556 115.0 12.0 64 95.0 65 66.0 96 91.0 556 115.0 12.0 70 41.0 64 70.0 89 95.0 524 117.0 12.0 70 41.0 64 70.0 89 95.0 524 117.0 12.0 72 42.0 24 72.0 195 95.0 204 127.0 12.0 72 42.0 24 72.0 195 95.0 205 127.0 12.0 72 42.0 24 72.0 195 95.0 205 127.0 12.0 72 42.0 24 72.0 195 95.0 205 127.0 12.0 72 42.0 24 72.0 195 127.0 12.0 72 72 72 72 72 72 12.0 72 72 72 72 72 12.0 72 72 72 72 72 12.0 72 72 72 72 12.0 72 72 72 72 12.0 72 72 72 72 12.0 72 72 72 72 12.0 72 72 72	7.0	*	31.0	307	59.0	18		367	114.0	171
9.0 55 53.0 114 62.0 24 37.6 470 112.0 10.0 89 56 65 65 64 68 110.0 11.0 40 56.0 57 64.0 81 69.0 68 110.0 11.0 40 56.0 56 65 65 67 67 68 1 69.0 11.0 40 56.0 56 65 65 67 67 68 1 69.0 11.0 40 56.0 56 65 65 67 67 68 1 69.0 11.0 40 56.0 56 65.0 56 56 110.0 11.0 40 61.0 56 65 65 67 67 67 67 67 67 67 67 67 67 67 67 67	1.3	33	32.0	215	60.09	45	86.0	141	111.0	171
10.0 6.0 54.0 54.0 54.0 683 111-24 11.0 4.0 55.0 57.0 57.0 57.0 12.0 4.0 55.0 57.0 57.0 13.0 4.0 55.0 57.0 57.0 14.0 5.0 5.0 57.0 15.0 4.0 57.0 57.0 15.0 7.0 7.0 67.0 57.0 15.0 7.0 7.0 15.0 7.0 7.0 7.0 15.0	6.0	55	53.0	114	62.0	47	37.0	470	112.9	332
13.0	6.0	6.5	34.0	15	63.0	15	88.0	683	113.	-141
11.0	10.0	6.3	35.0	57	0.40	18	0.68	783	114.0	213
12.0	11.0	6.0	36.0	63	0.50	45	0.06	506	115.0	661
13.3 44 38.0 75 67.0 39 92.0 527 117.0 14.1 43.0 66 66.0 67 93.0 294 113.0 15.1 44 40.0 54 66.0 70 94.0 361 117.0 15.1 42 40.0 246 70.0 89 95.0 302 121.0 17.1 42 42.0 241 72.0 142 97.0 140 122.0 18.0 127 44.0 150 72.0 142 99 98.0 212 121.1 18.0 127 44.0 150 72.0 142 99 98.0 213 121.0 22.0 12.1 12.1 12.1 12.1 12.1 12.1 12.1	12.0		37.0	20	0.99	96	91.0	556	110.0	102
14-3	13.5	++	34.0	75	67.0	39	92.0	527	117.0	214
15.0 43 40.0 54 65.0 97 94.0 361 11.1 16.0 70.0 68 95.0 212 12.1 17.0 42 42.0 210 142 97.0 140 121.1 18.0 127 44.0 156 72.0 99 98.0 212 121.1 18.0 127 44.0 156 72.0 99 98.0 219 121.1 20.0 65 45.0 134 74.0 233 99.0 219 125.0 21.0 51 47.0 52 75.0 252 100.0 219 125.0 22.0 51 44.0 27 75.0 147 101.0 176 125.0 23.0 51 45.0 17 70.0 153 103.0 189 125.0 24.0 27 75.0 154 104.0 272 121.1 25.0 21 52.0 21 82.0 227 121.1 25.0 21 22.0 16 82.0 193 109.0 197 135.0 25.0 21 22.0 16 82.0 193 109.0 197 135.0 24.0 391 53.0 18 24.0 193 109.0 197 135.0 25.0 27 27 27 27 27 25.0 27 27 27 27 25.0 27 27 27 25.0 27 27 27 27 27 27 27 27	14.0	65	39.0	39	64.0	69	93.0	594	113.3	210
16.0 10 41.0 E64 70.0 89 95.0 302 121.0 17.0 42.0 216 71.0 145 96.0 216 121.1 13.0 75 44.0 156 73.0 99 98.0 235 121.0 19.0 127 44.0 156 73.0 99 98.0 235 121.0 20.0 65 45.0 194 74.0 133 99.0 219 124.0 21.0 65 46.0 30 77.0 147 101.0 186 125.0 22.0 51 47.0 30 77.0 147 102.0 174 123.0 23.0 51 45.0 17 77.0 157 102.0 174 123.0 24.0 34 49.0 27 77.0 157 102.0 174 123.0 25.0 251 51.0 16 80.0 154 105.0 177 123.0 25.0 25.0 24 81.0 155 100.0 254 135.0 25.0 25.0 25 100.0 157 134.0 25.0 25.0 18 46.0 18 100.0 25.0 25.0 18 26.0 18 100.0 25.0 25.0 18 26.0 18 134.0 25.0 25.0 18 26.0 18 25.0 25.0 18 18 26.0 25.0 25.0 18 18 25.0 25.0 18 18 25.0 25.0 18 18 25.0 25.0 18 25.	15.3	53	40.0	54	0.69	76	94.0	361	115.1	153
17.0 42 42.0 210 71.0 155 96.0 212 121.) 18.0 12.0 142 44.0 12.0 142 97.0 142 122.0 18.0 12.0 12.0 12.0 12.0 12.0 12.0 20.0 65 45.0 194 74.0 133 99.0 219 124.0 20.0 65 45.0 194 74.0 133 99.0 219 124.0 21.0 46.0 30 77.0 134 100.0 219 125.0 23.0 90 46.0 30 77.0 157 100.0 174 127.0 24.0 20 17 70 15 100.0 174 127.0 25.0 21 71.0 16 80.0 174 105.0 217 12.0 25.0 31 51.0 16 80.0 174 105.0 272 112.0 25.0 31 57.0 6 83.0 16.0 194 105.0 197 135.0 25.0 31 57.0 6 83.0 16.0 107.0 153 112.0 25.0 31 57.0 6 83.0 16.0 107.0 153 112.0 25.0 391 57.0 6 83.0 16.0 107.0 153 112.0 25.0 391 57.0 18 84.0 165.0 197.0 157.0 144.0 145.0		10	41.0	+3	70.0	68	95.0	302	123.0	171
13.0 15 43.0 241 72.0 142 97.0 140 122.0 20.0 122.0 20.0 127.0 142 99 98.0 235 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0		74	45.0	710	71.0	155	0.96	212	121.)	102
19.0 1.27 44.0 150 73.0 99 98.0 235 25.3 20.0 65 45.0 194 74.0 133 99.0 219 1.24.0 21.0 65 45.0 134 75.0 252 100.0 219 1.25.0 22.0 51 47.0 52 76.0 147 101.0 219 1.25.0 23.0 341 44.0 36 77.0 154 102.0 174 1.27.0 24.0 24.0 27 77.0 154 102.0 174 1.27.0 25.0 25.1 51.0 16 80.0 194 105.0 217 13.0 27.1 51.0 16 80.0 194 105.0 217 13.0 27.2 52.0 21 52.0 21 81.0 166 254 132.0 27.3 391 52.0 6 82.0 250 107.0 153 132.0 27.0 391 53.0 6 82.0 250 107.0 153 132.0 27.0 391 53.0 18 84.0 166 108.0 272 134.0 135.0 135.0 135.0 135.0 135.0 135.0 135.0 135.0 135.0 145.0 145.0 147.0		15	43.0	747	72.0	142	97.0	140	122.3	مار
65 45.0 194 74.0 133 99.0 219 124.0 64 45.0 134 75.0 252 100.0 219 125.0 64 47.0 36 77.0 154 102.0 174 127.0 65 77.0 157 102.0 174 127.0 65 77.0 157 102.0 174 127.0 66 82.0 194 105.0 217 134.0 67 53.0 6 82.0 253 107.0 153 132.0 68 82.0 250 107.0 153 132.0 68 82.0 250 107.0 153 132.0 68 82.0 166 106.0 254 135.0 68 83.0 166 106.0 254 135.0 69 83.0 160 106.0 153 132.0 60 83.0 160 106.0 163.0 60 83.0 160 106.0 163.0 60 83.0 160 106.0 163.0 60 83.0 160 106.0 163.0 60 83.0 160 106.0 163.0 60 83.0 160 106.0 163.0 60 83.0 160 160 160.0 163.0 60 83.0 160 160 160.0 163.0 60 83.0 160 160 160.0 163.0 60 83.0 160 160 160.0 163.0 60 83.0 160 160 160.0 163.0 60 83.0 160 160 160.0 163.0 60 83.0 160 160 160 160.0 163.0 60 83.0 160 160 160 160 160.0 60 83.0 160 160 160 160 160 160.0 60 83.0 160 160 160 160 160.0 60 83.0 160 160 160 160 160 160 160 160.0 60 83.0 160 160 160 160 160 160 160 160 160 16		127	44.0	150	73.0	66	98.0	235		150
51 45.0 134 75.0 252 100.0 219 125.0 51 47.0 53 76.0 147 101.0 186 120.0 51 47.0 27.0 27.0 147 101.0 186 120.0 51 47.0 27 76.0 153 103.0 189 123.0 27 70.0 153 103.0 189 123.0 27 70.0 154 104.0 151 129.0 27 70.0 154 106.0 27 120.0 27 70.0 154 105.0 27 70.0 154 105.0 27 70.0 154 105.0 27 70.0 154 105.0 27 70.0 25 135.0 25.0 165 106.0 254 135.0 25 135.0 25 135.0 25 135.0 25 135.0 25 135.0 25 135.0 157.0 157.	20.0	£5	45.0	164	74.0	133	0.66	219	1.24.0	174
51 47.0 53 76.0 147 101.0 186 120.0 93 46.0 36 77.0 157 102.0 174 127.0 341 49.0 27 75.0 153 103.0 189 125.0 210 50.0 17 79.0 153 103.0 158.0 129.0 391 52.0 21 81.0 153 105.0 217 134.0 391 52.0 24 82.0 250 107.0 272 132.0 517 57.0 6 83.0 166 108.0 254 133.0 135.0 183 109.0 197 135.0 135.0 183 109.0 197 135.0 136.0 197 133.0 137.0 141.0 141.0 11 A&B PROPELLENT 149.0 141.0 147.0	21.3	28	45.0	136	75.0	252	100.0	219	1.5.1	171
90 46.0 36 77.0 157 102.0 174 127.0 341 49.0 27 76.0 153 103.0 189 128.0 210 27 76.0 134 104.0 151 1.4.2 251 52.0 11 81.0 16 82.0 250 107.0 272 131.0 251 57.0 6 83.0 166 108.0 254 135.0 251 57.0 18 84.0 183 109.0 197 134.0 252 137.0 253.0 18 84.0 183 109.0 197 134.0 254 135.0 255 135.0 254 135.0 255 135.0 256 135.0 257 135.0 257 135.0 258.0 18 84.0 183 109.0 197 135.0 258.0 183 109.0 197 135.0 259.0 197 135.0 259.0 197 197 134.0 250.0 197 197 135.0 250.0 197 197 197 197.0 250.0 197 197 197.0 250.0 197 197.0 250.0 197 197.0 250.0 197 197.0 250.0 197 197.0 250.0 197 197.0 250.0 197 197.0 250.0 197 197.0 250.0 197 197.0 250.0 197 197.0 250.0 197 197 197.0 250.0 197 197 197.0 250.0 197 197 197.0 250.0 197 197 197.0 250.0 197 197 197.0 250.0 197 197 197 197.0 250.0 197 197 197.0 250.0 197 197 197 197.0 250.0 197 197 197 197.0 250.0 197 197 197 197.0 250.0 197 197 197 197.0 250.0 197 197 197 197.0 250.0 197 197 197 197 197.0 250.0 197 197 197 197 197.0 250.0 197 197 197 197 197 197 197 197 197 197	22.3	15	47.0	53	0.91	147	101.0	186	120.0	152
341 49.0 27 76.0 153 103.0 189 128.0 50.0 17 79.0 134 104.0 151 1.29.0 510 50.0 17 79.0 134 104.0 151 1.29.0 511 52.0 21 131.0 272 512 52.0 21 131.0 272 513 132.0 2250 107.0 153 132.0 514 57.0 6 83.0 166 106.0 254 135.0 515 58.0 18 4.0 183 109.0 197 134.0 137.0 137.0 137.0 142.0 142.0 142.0 147.0 143.0 145.0	23.0	66	44.0	36	77.0	151	102.0	174	1.27.0	147
210 50.0 17 79.0 134 104.0 151 1.29.0 251 52.0 217 131.0 391 52.0 21 81.0 155 105.0 217 131.0 391 53.0 6 82.0 250 107.0 153 132.0 391 53.0 6 83.0 166 108.0 254 133.0 391 53.0 18 34.0 18 109.0 197 134.0 135.0 137.0 135.0 142.0 142.0 114.0 145.0 143.0 145.0	24.3	341	49.0	. 27	78.0	153	103.0	681	128.3	133
251 51.0 16 80.0 194 105.0 217 133 391 52.0 21 81.0 153 105.0 272 103 391 52.0 21 81.0 153 105.0 272 103 391 53.0 6 82.0 250 107.0 153 132.0 391 53.0 18 84.0 184.0 193.0 135.0 135.0 135.0 135.0 140.0 144.0 144.0	25.0	01.7	50.0	1.1	19.0	134	104.0	151	1.9.3	151
391 52.0 21 15.3 105.0 272 131.3 354 53.0 6 82.0 255 107.0 153 132.0 517 57.0 6 83.0 166 108.0 254 135.3 391 53.0 18 84.0 183 109.0 197 134.0 135.0 137.0 135.0 136.0 197 134.0 142.0 197 197.0 143.0 143.0 144.0	26.3	157	61.0	16	80.0	164	105.0	217	133.3	123
354 53.0 6 82.0 253 107.0 153 132.0 517 57.0 6 83.0 165 106.0 254 135.3 135.3 391 53.0 18 34.0 183 109.0 254 135.3 135.3 135.3 109.0 197 135.3 145.3 147.3 147.3 147.3 147.3	21.3	168	52.0	77	81.0	153	105.0	272	Liber	150
517 57.0 6 83.0 166 108.0 254 135.3 391 53.0 18 84.0 183 109.0 197 134.0 135.0 137.0 137.0 138.0 137.0 138.0 137.0 138.0 142.0 143.0 143.0 147.0	26.3	455	53.0	9	82.0	253	107.0	153	132.0	191
391 53.0 18 84.0 183 109.0 197 134.0 135.1 135.1 135.1 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 140.0 144.0	. 6.82	1115	57.0)	83.0	166	106.0	254	135.3	75
135.0 136.0 137.0 138.0 139.0 140.0 142.0 143.0 145.0 147.0	30.3	391	69	18.	34.0	183	109.0	197	134.0	
136.0 1 137.0 137.0 137.0 138.0 140.0 141.0 143.0 143.0 145.0 145.0									135.	7,6
137.0 138.0 138.0 140.0 142.0 143.0 143.0 145.0 147.0									130.3	135
STRESS AT RUPTURE (SR), CHS=2.0 IN/MIN, TP-HIOII A&B PROPELLENT 139.0 140.0 141.0 143.0 143.0 143.0 143.0 143.0 143.0 143.0 143.0 143.0 143.0 145.0 145.0			and the second of the second o	Security (processed of the second			The second second	-	137.3	99
STRESS AT AUPTURE (SR), CHS=2.0 IN/MIN, TP-HIOII A&B PROPELLENT 139.0 140.0 141.0 143.0 143.0 145.0									138.0	
140.0 142.0 143.0 144.0 145.0 147.0		17			INIMIN, TP-H	AEB	PROPELLENT		139.0	75
							1		140.0	64
									141.0	- 64
									142.3	25
						The state of the state of			143.0	36
									144.0	36
147. 1									1.5.0	17
									147.3	27



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8.0 8.0 0.0		I SHIMOHI	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES
3.00	*	31.0	307	59.0	18	85.0	307	110.0	166
9.0	,	32.0	512	0.09	75	86.0	144	111.0	171
0.0	53	33.0	114	62.0	54	87.0	470	112.0	305
10.0	64	34.0	16	63.0	51	88.0	682	113.0	155
	68	35.0	57	0.49	81	89.0	783	114.0	213
11.0	4	36.0	63	65.0	45	0.06	905	115.0	193
12.0	46	37.0	56	66.0	96	91.0	558	116.0	2.0.
13.0	*	38.0	75	67.0	39	92.0	527	117.0	208
14.0	95	39.0	69	68.0	69	93.0	294	118.0	017
15.0	43	40.0	54	0.69	16	94.0	360	0.611	153
1 16.0	7.0	41.0	84	70.0	89	0.56	302	120.0	113
0.21	74	45.0	216	71.0	165	0.96	212	121.0	207
1	15	43.0	241	72.0	142	97.0	140	122.0	90
15.0	171	44.0	158	73.0	66	98.0	235	123.0	150
20.0	65	45.0	161	74.0	133	0.66	216	24.0	171
21.0	do	46.0	136	75.0	252	100.0	219	125.0	173
22.0	15	47.0	53	76.0	147	101.0	186	126.0	152
25.0	61	48.0	36	77.0	157	102.0	174	127.0	150
24.0	330	49.0	27	78.0	154	103.0	183	128.0	1.50
25.0	713	50.0	11	19.0	134	104.0	151	129.0	150
0.97	757	51.0	16	90.0	161	105.0	217	133.0	145
27.4	1F.	52.0	77	81.0	153	106.0	272	151.0	197
78.0	354	53.0	9	82.0	260	107.0	:53	132.0	101
76.0	517	57.0	9	83.0	991	108.0	253	133.0	95
36.0	165	58.0	1.8	84.0	183	109.0	182	136.0	76
							1	135.0	141
								136.0	165
				-				137.0	123
							The state of the s	138.0	129
TENS	TENSILE MUSULUS	ILUS (E), CHS	=2.0	IN/MIN. TP-H 1011	A EB	PROPELLENT		139.0	168
The second contract to the second contract to							-	140.0	67
							1	141.0	67
								142.0	43
								143.0	30
							1	144.0	45
								145.0	11
								147.0	77

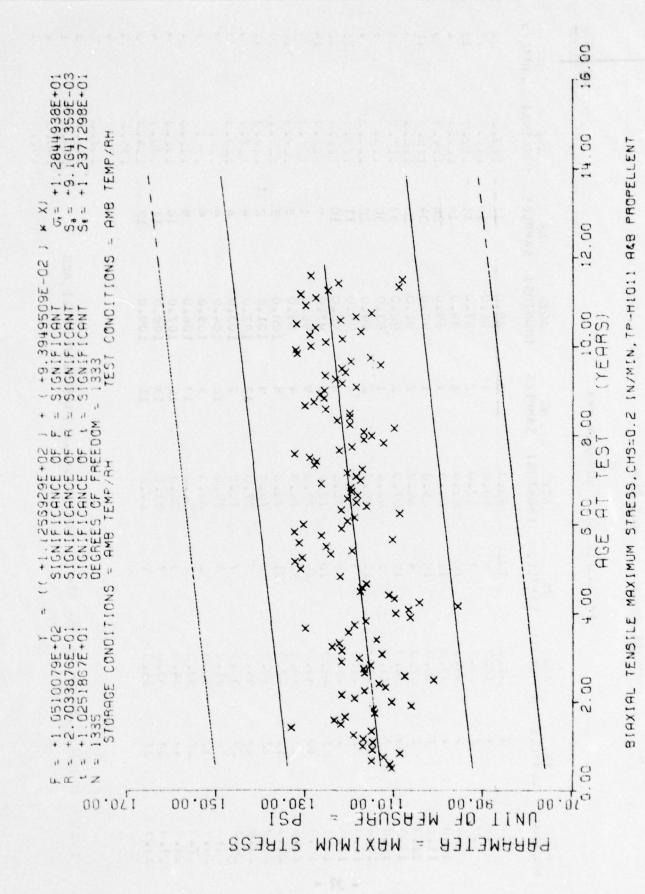


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*** SAMPLE SIZE SUMMAKY ***

- #	CHAMPLES	~	1.1	2	•	,	11		~	•	•	1.2	11	10		7.7	,	;;	•		,	,	*	•	+	7	4	.+
30.	(SIGN THIS)	113.3	111.	11	1	1.4.1	115.0	116.3	111.3	11.50.3	11	1.23.0	121.0	. 22.3	127.0	(1-5-4		1.7.0	1.23.1	((.)(!	131.4	1 36 1	135.1	1.4.0	135.9	1,56.0
A.A.	SAMPLES	11	31	11	174	56	34	23	37	30	20	111	10	6	1	3	5	2 :	1	4	6	0	6	10	. 11	12		
AGE	(MUNTHS)	85.0	86.0	87.0	88.0	89.0	0.06	91.0	92.0	93.0	0.46	95.0	0.96	97.0	0.96	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0		
SIN.	SAMPLES	. 2	1	2	1	1	1		7	1	. 2	7	4	0	6	4	5	6	12	7	10	10	10	51	13	11		
AGE	(AONTHS)	53.0	60.0	65.0	65.0	0.40	65.0	06.3	67.3	0.39	69.0	70.0	72.0	12.0	73.0	74.3	12.0	16.0	77.0	76.0	79.0	50.0	01.0	0.70	33.0	84.0		
NK	SAMPLES	13	2	,	. 12	11	10	4	10	5	11	3	3	20	35	3.5	31	n	5	7		-1	2		1	4		
AGE	(14URT-45)	Stev	32.0	33.0	54.0	35.0	36.0	57.0	38.3	37.0	40.0	·1.3	+3.0	44.0	45.0	40.3	47.0	48.3	45.0	50.0	21.0	50	53.1	34.0	55.0	56.3		
14	SA 401.3	•	•	٠,	,	•	1	,		,	1.1	7	,		10	0.	1	71	2	67	3.	3.5	7.7	1.	3.1	31		
19.7	(SCATAS)	C. J.	7.0			13.0	11.	17.1	15.1	1.0.1	13.0		3			6.1.5	77.7	27.03	0.57	7.4.7		1	7.1	20.3	20.00	1.00		

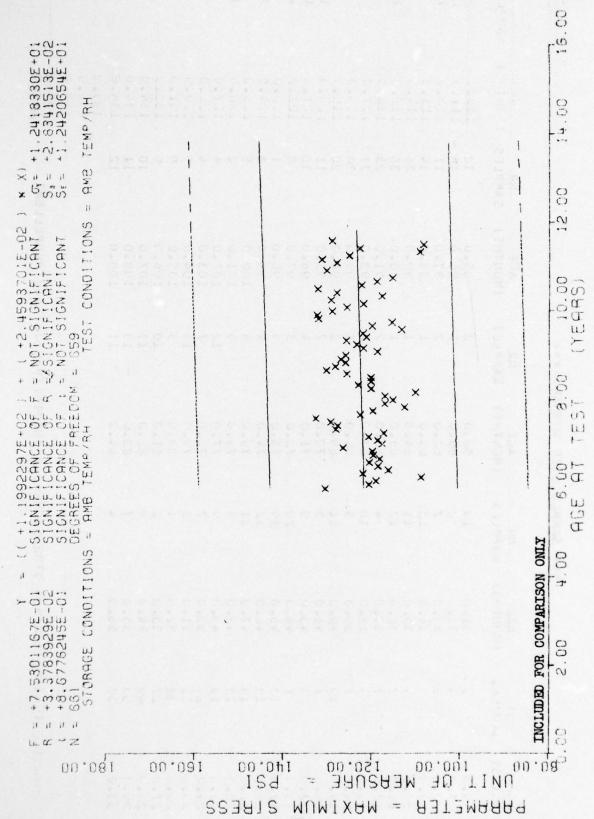
139.0



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*** SAMPLE SIZE SUMMARY ***

SAMPLES	7	1.2	1.3	7	7	11	2		•	•	71	11	7	•	77		11	•		•	•		2	*	•	4	6,	.1	1	-
18 JULY 19 (19)	111.0	1111.)	1.12.9	115.2	114.3	115.0	116.0	1117.0	113.3	115.3	1.0.3	121.0	122.0	1,23.0	124.0	145.3	120.0	1.1.0	140.0	127.3	151.3	15300	134.0	135.0	136.0	137.3	138.0	139.0	1,40.0	142.0
SAMPLES	12	18	11	14	56	36	23	37	30	20	11	10	6	1	3	. 5	2	4	4	c.	C	6	10	11	12					LENT
AGE (MONTHS)	35.0	86.0	87.0	88.0	89.0	0.06	91.0	92.0	93.0	0.46	95.0	0.96	97.0	0.96	99.0	100.0	101.0	102.0	103.0	104.0	105.0	106.9	107.0	1.98.0	109.0					AEB PROPELLENT
SAMPLES	7	1	2	1	1	1	2	7	1	7	2	+	m	6	*	5	6	12	,	15	25	07	51	13	11					IN/MIN. TP-H1011
AGE (MONTHS)	58,0	0.09	62.0	0.50	0.49	65.0	36.0	67.0	0.09	69.0	73.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	70.0	13.0	30.0	61.0	82.0	83.0	64.0					
SAMPLES	19	83	,	1.2	11	10	4	01	c	11	3	ın	20	39	35	31	œ	6	7	27	-	7	6	1	*					STRE 55 , CH5 = 0.2
AGE (MONTHS)	51.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0	40.0	41.0	43.0	44.0	45.0	46.0	47.0	48.0	4.9.0	50.0	51.0	54.0	53.0	54.0	55.0	56.3			-		
HR JAHPLES	1	•	~1	,		,		,	,	1.1	,		,	1.1	17	77	1.2	1.3	. 7		32	77	5+	11	31					STANIAL TELSILE MAXIMUM
(S.J.Tills.)		7.	0.6	3.0	10.0	11.3	1.2.0	13.0	1	15.3	1.15.0		9	13.3	.0.07	L.1.	22.0	23.3	24.3	7,007	7007	27.0	23.1	29.1	33.0					TAKTO .

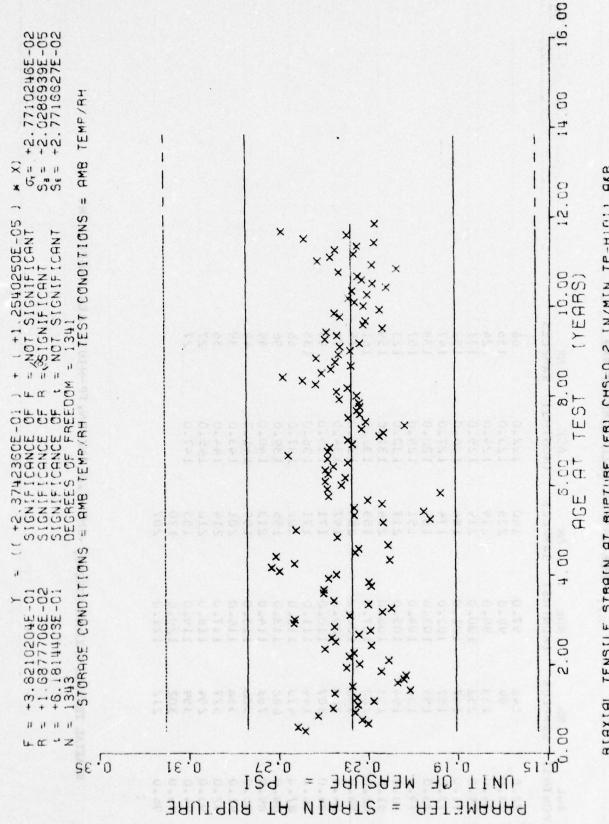


BIGXIGL TENSILE MGXIMUM STRESS, CHS=0.2 IN/MIN, IP-HIO11 GAB PROPELLENT

*** SAMPLE SIZE SUMMARY ***

SAMPLES	99	156	124	171	152	141	138	151	123	159	191	75	75	66	135	99	96	64	64	39	36	27	. 12		
ASE (MONTHS)	122.0	123.0	174.0	125.0	126.0	127.0	124.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	139.0	140.0	141.0	143.0	144.0	145.0	147.0		
SAMPLES	140	235	617	517	186	174	189	151	217	274	153	254	161	171	171	305	155	213	199	201	214	710	153	170	207
AGE (MONTHS)	97.0	98.0	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	103.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	171.0
NK SAMPLES	7.57	66	133	757	141	151	153	154	161	153	760	166	183	301	144	473	682	783	100	550	527	567	359	302	217
AGE (MONTHS)	, 72.0	73.0	74.0	75.0	76.0	77.0	70.0	79.0	80.0	21.0	82.0	83.0	94.0	85.0	86.0	81.3	88.0	0.68	0.06	0.16	92.0	93.0	0.46	0.46	0.96

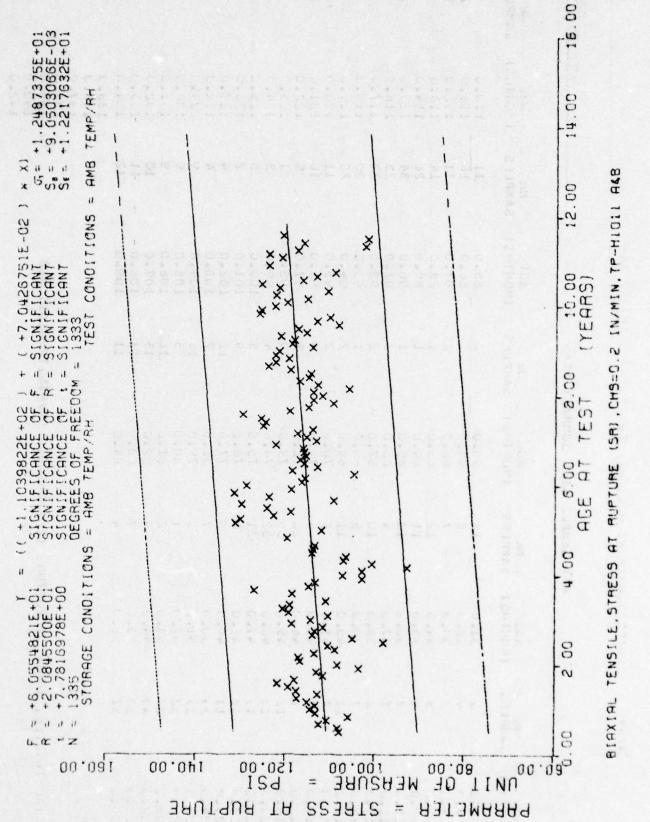
BIAXIAL TENSILE MAXIMUM STRESS, .CHS=2.0 IN/MIN.TP-H1011 A&B PROPELLENT



BIRXIAL TENSILE, STRAIN AT RUPTURE (ER), CHS=0.2 IN/MIN, TP-HIGII A&B

*** SAMPLE SIZE SUMMARY ***

Colins Jample (Additional State Colins Samples (Monthes) Samples Colins Colin		98 F	7.	308	ž	AGE	NK	AGE	N.	-45t	4
11	-	131.115	JAMPIE,	(Kalatters)	AMPLE	(MUNTHS)	LE	(MONTHS)	SAMPLES	(MCMTHS)	SAMPLES
1.0		6.3	•	31.0	1.8	53.0	7	85.0	#	11.3.0	37
10.00 1.00		1.3		6.75	a.	60.09	7	86.0	16	111.0	71
10.0		3.)		33.3	,	0.79	7	87.0	11	116.3	2
15.0 1.0 1.0 0.4.0 1.0 0.5.0 1.0 0.0.0 2.6 115.0 1.0 0.0.0 1.0 0.0.0 2.8 115.0 1.0 0.0.0 2.8 115.0 1.0 0.0.0 2.8 115.0 1.0 0.0.0 2.8 115.0 2.8 115.0 2.8 2.0		2.5	٠,	54.3	17	63.0	-	88.0	14	113.0	
11.1	-	0.0	. 4	35.0	11	0.40	1	89.0	26	4	0
13.0				30.1	1.0	65.0	1	0.06	34	115.0	11
13.1		2.0	1	57.3	+	0.60	7	91.0	23	116.0	5
7 19.0 5 68.0 1 93.0 30 11) 40.0 11 69.0 2 94.0 20 11 7 41.0 2 70.0 2 95.0 11 120.0 10 44.0 2 2 72.0 3 97.0 11 120.0 11 45.0 39 72.0 3 72.0 3 12 12 46.0 32 72.0 3 72.0 3 12 13 46.0 31 72.0 3 12 14 46.0 32 72.0 3 12 15 46.0 6 70.0 6 100.0 5 120.0 18 46.0 77.0 12 102.0 4 120.0 19 47.0 1 1 100.0 9 120.0 10 10.0 0 9 120.0 11 100.0 12 120.0 12 52.0 12 120.0 13 108.0 11 103.0 14 56.0 4 44.0 11 100.0 12 130.0 15 10.0 12 130.0 16 10.0 12 130.0 17 50.0 11 100.0 12 130.0 18 1		3.1	.)	38.0	× 10	0.70	2	92.0	37	117.0	J
15.3	-	٠.٠	1	19.0	2	68.0	1	93.0	30	11,.3	5
17.0 7 41.0 2 70.0 2 95.0 11 120.0 17.0 4 96.0 10 121.0 17.0 4 96.0 10 121.0 17.0 4 96.0 10 121.0 17.0 10 121.0 121.0		5.0	10	40.0	11 × ×	7.69	2	0.46	20	135.0	4
17.0 5 43.0 5 71.0 4 96.0 10 121.0 15.0 72.0 3 72.0 3 97.0 9 78.0 23.0 10 42.0 32 72.0 4 99.0 1 12.0 22.0 12 42.0 32 72.0 9 101.0 2 122.0 23.0 20 20 72.0 12 100.0 5 122.0 23.0 20 20 20 10 10 10 10 10 10 10 10 10 10 10 10 10		0.0	-	41.6	(.)	70.07	2	95.0	===	129.0	71
15.0		7.3	5	43.3	5	71.0	4	0.96	10	121.0	11
15.3 1. 45.0 39 75.0 9 98.0 1 1.3.0 23.0 1. 46.0 32 74.0 4 99.0 3 124.0 22.0 1. 46.0 21 75.0 5 160.0 5 125.0 22.0 1. 46.0 21 75.0 5 100.0 2 124.0 23.0 1. 46.0 77.0 1. 12 102.0 4 124.0 23.0 23.0 1. 75.0 1. 103.0 4 124.0 24.0 5.10 1. 104.0 9 12.0 25.0 55.0 1 2 2 21.0 10 106.0 9 12.0 25.0 27 55.0 7 83.0 1. 108.0 1. 125.0 25.0 30 55.0 7 83.0 1. 108.0 1. 125.0 25.0 25.0 1. 44.0 1. 109.0 1. 12 135.0 25.0 25.0 1. 44.0 1. 109.0 1. 12 135.0 25.0 25.0 1. 44.0 1. 109.0 1. 12 135.0 25.0 25.0 1. 25.0 1				44.0	20	72.0	3	97.0	5	1.2.0	2
11		5.)	10	45.0	3.9	75.0	6	98.0	1	0.57	.)
19 47.0 21 75.0 5 100.0 5 125.0 1 1 1 1 45.0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		.j.,		40.0	32	74.0	*	0.06	6	124.0	71
12 46.0 8 70.0 12 102.0 4 1.7.0 1 1 102.0 4 1.7.0 1 1 1 102.0 4 1.7.0 1 1 1 102.0 4 1.7.0 1 1 1 102.0 4 1.7.0 1 1 1 103.0 4 1.7.0 1 1 1 103.0 4 1.7.0 1 1 1 103.0 4 1.7.0 1 1 1 103.0 4 1.7.0 1 1 1 103.0 4 1.7.0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1.3	1.)	41.0	77	75.0	5	100.0	5	1.55.0	•
15 45.0 9 77.0 12 102.0 4 1.7.0 2.5 50.0 7 75.0 16 104.0 9 1.29.0 2.5 51.0 5 75.0 16 104.0 9 1.29.0 2.7 52.0 1 6 104.0 9 1.29.0 2.7 52.0 2 2.10 10 106.0 9 1.10.0 2.7 55.0 7 9 82.0 15 107.0 10 1.25.0 2.8 55.0 7 83.0 11 109.0 11 135.0 2.8 55.0 7 84.0 11 109.0 12 134.0 2.9 55.0 7 84.0 11 109.0 12 134.0 2.9 55.0 7 84.0 11 109.0 12 134.0 2.9 55.0 7 84.0 11 109.0 12 134.0 2.9 55.0 7 84.0 11 109.0 12 135.0 2.0 6.0 14.0 0 14.0 0		2.0	7.	46.0	33	70.07	6	101.0	2	120.0	11
75.0 50.0 7 78.0 7 103.0 4 128.3 55.0 51.0 5 79.0 16 104.0 9 129.0 5 108.0 5 108.0 6 129.0 6 129.0 6 128.3 7 55.0 7 9 82.0 15 107.0 10 132.3 1 15 107.0 11 155.0 135.3 136.3 136.3 136.3 136.3 136.3 136.3 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 137.0 140.0 140.0 140.0 140.0 140.0 140.0 140.0 140.0 140.0 140.0	,		13	6.54	5	77.0	12	102.0	4	1.7.0	.,
79.0 16 104.0 9 129.0 1 10.05.0 9 129.0 1 10.0 106.0 1 10.0 10.0 1 10.0 10.0		14.3	7.1	0.000	,	78.0	7	103.0	4	1.22.1	-1
32 32.0 1 30.0 5 105.0 9 156.0 9 156.0 9 156.0 9 156.0 9 156.0 9 156.0 9 156.0 10 132.0 10 132.0 10 132.0 10 132.0 11 156.0 11 155.0 133.0 133.0 133.0 133.0 133.0 135.0			3	51.3	. 1	0.67	16	104.0	o.	0.671	1
22 52.3 2 81.0 10 106.0 9 14.0 3 15 107.0 10 132.0 3 55.0 7 83.0 13 108.0 11 153.0 11 153.0 12 134.0 11 135.0 12 134.0 135.0 12 134.0 135.0 135.0 135.0 135.0 135.0 135.0 135.0 135.0 135.0 133.0 135.0 133.0 140.0 140.0 140.0 140.0 140.0 140.0 140.0 140.0			71	52.0	1	90.0	ıs	105.0	0.	130.1	,
4.1 54.3 9 92.0 15 107.0 10 132.3 33 55.0 7 93.0 13 108.0 11 155.3 37 55.0 7 83.0 11 109.0 12 134.3 135.3 135.3 156.3 157.0 157.0 17 153.3 185.3 157.0 157.0 17 159.0 17 159.0 185.3 185.3 186.3 187.0 187.0 187.0 187.0 187.0		7.17	77	53.0	2	0.13	16	106.0	0	1.4.0	4
7 93.0 13 108.0 11 153.0 37 55.0 7 84.0 11 109.0 12 134.0 135.0 135.0 135.0 156.0 157.0 157.0 153.0 159.0 160.0 160.0		23.3	4.)	54.3	6	82.0	15	107.0	10	132.3	7
12 134-3 135-3 135-3 136-3 157-0 153-3 153-3 157-0 153-3 159-3 169-0 149-0 149-0			33	55.0	7	83.0	13	108.0	. 11	155.0	•5
125.3 136.3 157.0 153.3 159.3 149.0 142.0	1	0.0	37	jt. J.	4	0.42	111		12	134.1	3.
136.3 133.0 15.51.0.1.0.5.1.4.0.1.4.0.0 10.5.0.0 140.0 140.0										135.3	4
157.0 133.0 Te.Jilf.STAIN AT RUPTURE (ER), CHS=0.2 IN/MIN, IP-H1011 AEB 159.0 140.0										136.3	4
Te.JILE .JELAIN AT RUPTURE (ER), CHS=0.2 IN/MIN, TP-HI011 AEB 159.0 140.0 140.0 142.0										157.0	9
Tellicial TAIN AT RUPTURE (ER), CHS= 0.2 TN/MIN, TP-H1011 AEB 159. 140. 140. 140. 140.										133.0	"
	1.0.1		Jici iste.	M	(ER)	7.0	MIN, IP-HIC			159.3	1
1.1.2.0											1
										1.2.0	-1

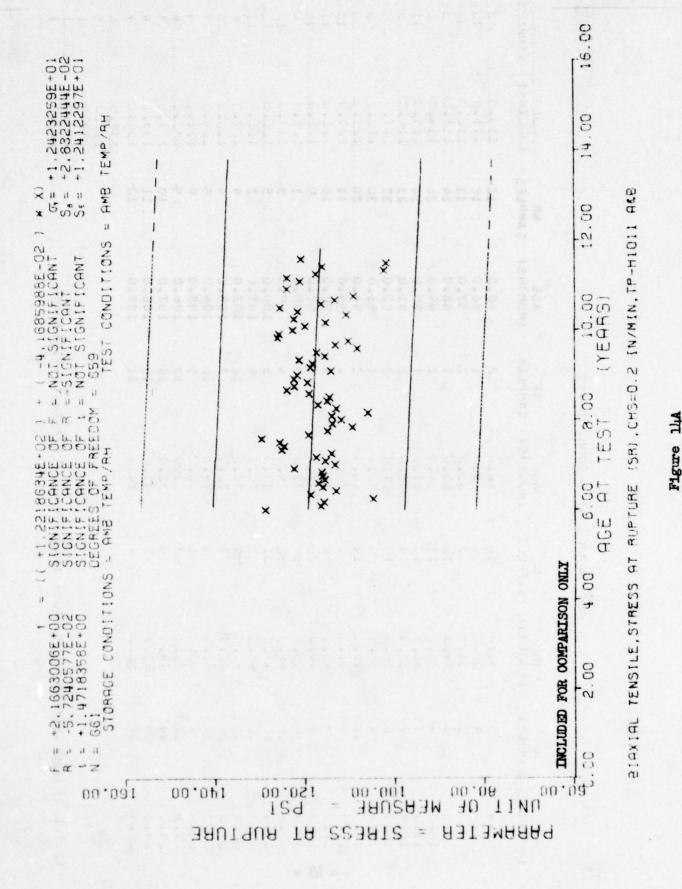


Pigure 14

*** STAPLE SUBSTANCE

		Í	160	¥	AGE	X.	AGE	N.	15.	-
-	1511111	SAMPLES	(*DrITHS)	SAMPLES	(MOKT4S)	SAMPLES	(MONTHS)	SAMPLES	(ACRITHS)	SAMPLES
	;	^1	31.0	16	2000	2	85.0	12	113.3	8
	11	4	32.0	در	60.09	1	86.0	16	0.111	71
		1	(,	0.70	7	37.0	11	114.0	2
		^	34.0	71	65.0	-	88.0	14	113.	7
	10.	•	35.0	11	64.0	1	0.68	26	1.4.0	v)
	11.0		36.3	10	0.50	-	0.06	36	115.0	11
		,	37.0	•	55.0	2	0.16	. 23	116.3	7
		,	30.0	1.	67.0	2	92.0	37	117.0	- 1
	14.3	,	53.5	٠,٦	0.00	1	93.0	30	110.3	^
	15.	3	40.0	11	6.60	~	0.46	20	Lilla	
		1	41.3	.1	70.0	7	.0.56	11	129.3	71
-	: /.	n	43.0	•	71.0	4	96.0	10	144.0	11
45			0.44	202	12.0	3	97.6	0	122.0	- Ib
-		I.o.	45.0	5.9	73.0	6	0.36	-	1.3.1	c
	20.00	7.	44.3	3.4	74.3	+	0.06	8	1.24.3	1.
	-1		47.0	115	15.0	5	100.0	5	Letion	2
		1	4.9.1	53	76.0	6	101.0	2	1.0.0	11
	0	2	4 ; , ;	5	77.0	71	102.0	4	127.3	9
	24.0	25	50.3		76.3	~	163.0	4	123.3	
		35	, ,,,	٠,٦	19.0	16	104.0	0	6.631	1
	20.00	3.4	52.0	-	80.0	2	105.0	6	151.0	+
	.ii.	77	5.5	~1	2.12	13	106.0	6	4.100	
		.(+)	54.)	5	32.0	15	107.0	10	134.0	3
		30	55.3	,	33.0	13	108.0	11	155.3	4
	13.0	37	50.0	4	84.0	11	109.0	12	Leart	4
									137.0	77
									136.1	9
									139.0	-

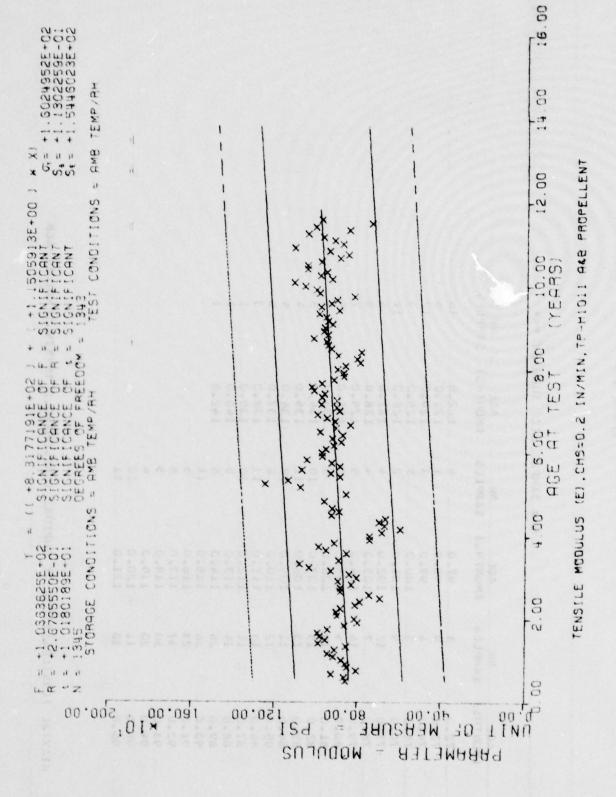
142.0



*** SAMPLE SIZE SUMMARY ***

NR	16	9	12	6	11	9	80	7	4	*	3	4	4	9	3	1	1	1							
AGE (MONTHS)	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	131.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	145.0	1						1
SAMPLES	0	1	e	5	2	*	,	6	6	5	01	==	12	9	12	10	το	9	11	'n	80	5	4	17	7
AGE (MUNTHS)	97.0	0.86	66.0	100.0	101.0	105.0	103.0	104.0	105.0	136.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	0.611	120.0	121.0
NR	8	6	*	5	6	12	1	16	,	17	15	13	11	77	18	11	14	97	95	5.5	16	3:0	50	11	3
AGE (MONTHS)	72.3	73.0	74.0	75.0	76.0	77.0	78.0	0.67	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	0.88	89.0	0.06	0.16	0.76	93.0	0.46	0.56	0.96

BIAXIAL TENSILE, STRESS AT RUPTURE (SR), CHS=0.2 IN/MIN, TP-HIDII AEB

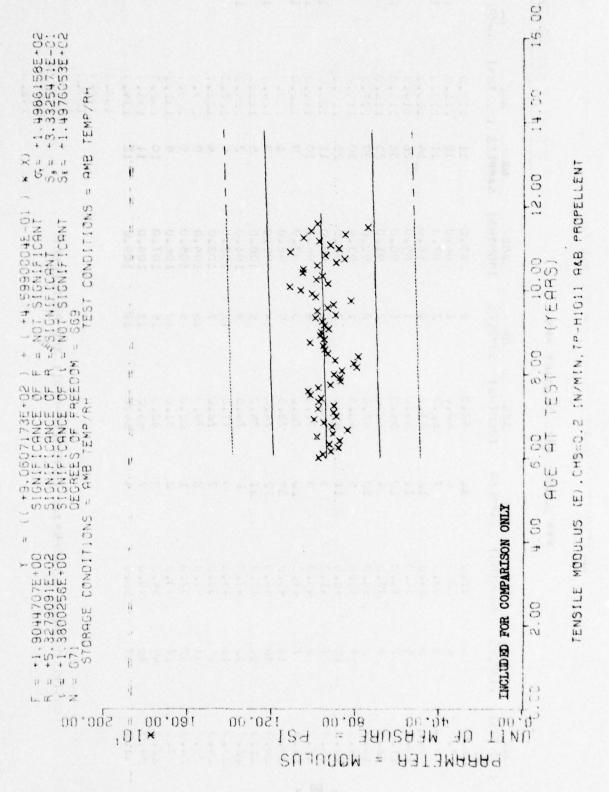


Pigure 15

*** SAMPLE SIZE SUBMARY ***

30.23.21.25.25.25.25.25.25.25.25.25.25.25.25.25.	31.0 22.3 23.0 34.0 35.0 37.0 37.0	10 0 7		7	16 11 10 11	ישונו ררי	15 11 11 11 11	3
14.1442 34 34 34 35 36 36 35 36 36 36 36 36 36 36 36 36 36 36 36 36	31.0 22.0 34.0 34.0 35.0 37.0	10 0						
* 144 3-2-2-222	22.0 25.0 36.0 37.0 3.0 3.0 3.0	2 1	53.2	2	85.0	11	110.1	8
14 2-2-222 20100	24.00.00 24.00.00 24.00.00	7	60.0	1	86.0	18		1.2
250 00 and 150 00	34.0 45.0 37.0 13.0		C• 79	2	87.0	111	117.0	CI
40-00 answer	35.3 37.0 13.0	17	63.0	1	88.0	14		•
250 00 and	32. 1 37. U	11	6.4.0	1	89.0	26	114.)	3
20100 april 150100	37.0	10	65.0	1	0.06	36	115.3	11
20100	13.1	-,-	0000	2	91.0	23	110.0	
- 2 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3		10	0.70	2	0.76	37	1.7.0	3
2-7-2222	39.0	S.	6.00	× 1	93.0	30	110.0	ın
-	40.0	11	0.80		94.0	20		4
%~324 <u>7</u> 2	41.0	~	70.0	.7	6.56	11	1.24.0	71
72222	4.5.3	5	C.17	*	0.96	10	121.3	11
2222	6.55	. 62	1200	m	97.0	6		10
2 17 2	45.0	30	73.3	0.	98.0	7	123.1	5
77 77	44.0	3.5	74.0	4	0.66	3	1.59.	1,
21 12	47.0	31	75.0	5	100.0	5	1.15.	
1.	43.3	w	70.0	7	0.101	2	125.3	11
7	49.0	7	77.0	12	102.0	4	1.7.3	-0
52	50.0	7	70.0	7	103.0	4		3
	51.0	~	79.0	91	104.0	ć	17.10	,
55	52.0	1	0.00	2	105.0	0		1
12	13.0	7	81.0	10	106.0	6	131.	4
0	54.0	6	82.0	15	:07.0	10	1.75.1	1
29.3	55.0	1	83.0	13	108.0	11	133.0	•
37	50.0	*	84.0	11	109.0	12	134.3	•
							1.55.3	*
							150.0	4
							137. 1	9
Telester, adoldeus	(2)	, CHS=J.2 IN/M	IN/MIN, TP-H1011	AEB	PROPELLENT		156.0	1
							140.0	

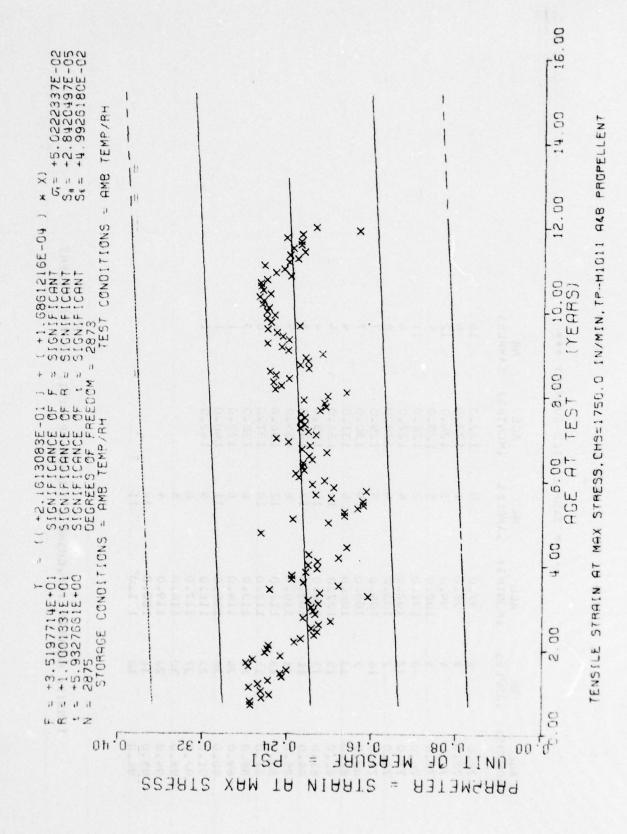
3 31302774380218 E



*** SAMPLE SIZE SUMMARY ***

					-			1									N			-						
NR	SAMPLES	16	9	12	6	"	9	8	7	7	4	4	4	3	4	4	9	3	-	1	-					
AGE	(MONTHS)	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	142.0					The second secon
æ	SAMPLES	5	-	3	5	7	,	•	6	6	5	10	11	. 12	60	12	10	80	9	11	2	9	5	4	71	11
AGE	(MUNTHS)	97.0	93.0	0.66	100.0	101.0	102.0	103.0	104.0	105.0	100.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121-0
NK	SAMPLES	m	6	4	5	6	77	1	16	10	77	15	13	11	11	18	11	14	97	36	23	31	30	22	11	3
AGE	(HONTHS)	72.0	73.0	74.0	75.0	76.0	77.0	72.0	79.0	80.0	81.0	82.0	83.0	64.0	85.0	86.0	87.0	88.0	0.68	0.06	0.16	0.26	93.0	0.46	0.56	0.96
								1						-			1			-			-			1

TENSILE MODULUS (E), CHS=0.2 IN/MIN, TP-H1011 AEB PROPELLENT



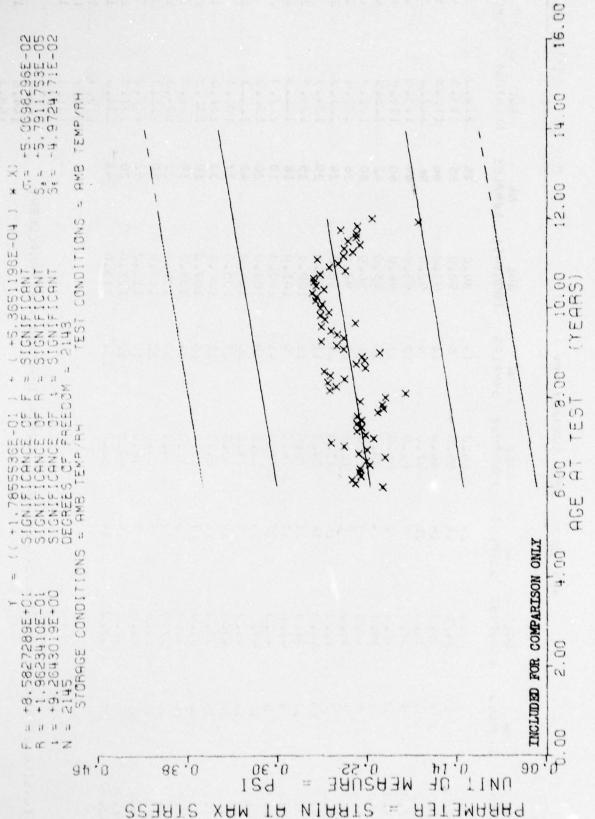
- 52 -

*** SARPLE SIZE SUMMARY ***

TIB	SAMPLE	20	1.3	35	5	27	15	75	23	36	24	6	24	18	67	,	13	o,	71	5,7	15	7.	77	18	71	17	16	
797	(MC.,THS)	114.0	115.0	116.3	11.7.0	118.0	119.0	120.0	1.1.0	1.22.0	123.3	124.0	1.55.1	177.1	1.1.1.)	120.0	1.9.1	1,10.0	131.0	132.3	153.0	134.0	1,35.1	120.0	137.0	138.0	139.3	
3	SAMPLES	75	85	99	75	64	09	42	30	26	24	20	15	18	18	20	42	27	33	18	18	23	30	55	20	48		
AGE	(MONTHS)	89.0	0.06	0.16	92.0	93.0	0.46	0.56	0.96	97.0	98.0	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	106.0	110.0	111.0		113.0		
146	SAMPLES	13	9	1.2	5	1.2	15	14	21	1.7	7.7	1.2	1.5	0	45	18	20	27	77	63	4.7	3.3	22	20	69	101		
AUE	(MUNITHS)	64.0	65.0	0.00	57.0	60.09	0.69	70.0	71.0	74.0	73.0	74.0	75.0	76.0	17.	78.0	79.0	30.0	01.0	82.0	92.0	0.43	35.0	30.0	87.0	86.0		
Ź	SAFPLES	23	11	14	1.6	S.	1	•	10	5	1.4	34	3.1	31	32	30	(0)	10	,	7	1	7	~1	23	,	14		
46e	(CHOMPHS)	13.1	34.0	35.3	35.0	57.3	20.0	39.0	1.0.0	41.0	6.54	40.0	6.44	45.0	40.0	47.3	40.0	49.0	50.1	51.0	53.1	0.70	0.00	0.10	52.6	03.0		
ŧ	on WLES		,		- `	+	3	1	T.	,	7	1.0	7.7			57	1.0	77	(1)	707	4.7	7	77	77	c1	7.1		
405	(sathetes)		7.1	10.0		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	13.0	[.+.]		15.)	17.	1.300	(19.0)	0.07	21.0	22.0	23.0	2.4.	25.0	0.07		7. 3.	20.00	1,1,1	31.0	32.0		

TENSILE STRAIN AT MAX STRESS, CAS-1750.0 IN/MIN, IP-HIOLI AEB PROPELLENT

140.0 141.0 142.0 144.0



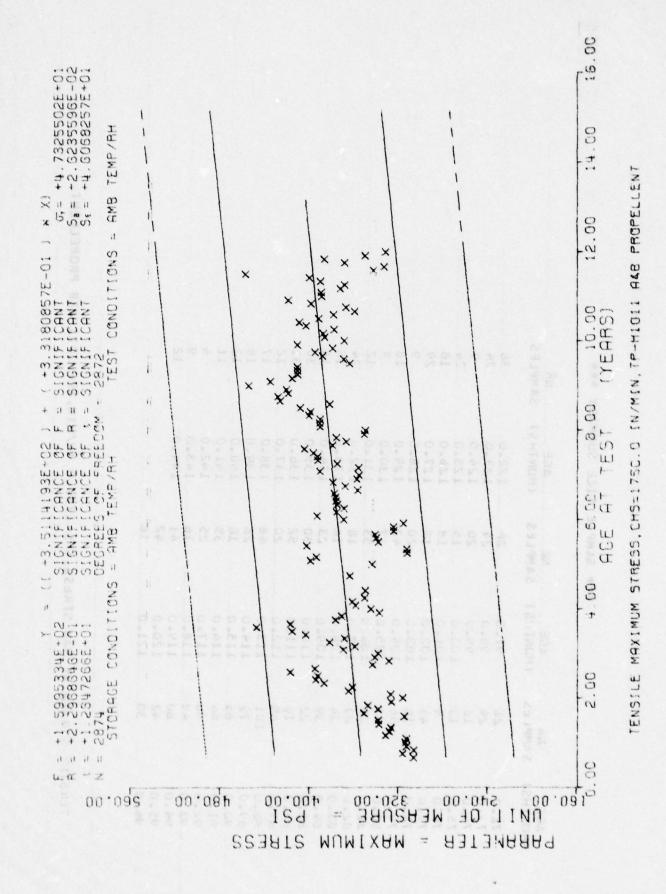
TENSILE STRAIN OF MAX STRESS, CHS=1750.0 IN/MIN, TP-HIDII

PAB PROPELLENT

SAMPLE SIZE SUMMARY

					1			,			1												1				
NR	SAMPLES	36	54	6	24	18	53	6	18	6	12	54	18	14	30	31	- 12	17	18	- 12	11	9	6	12			
AGE	MUNIHAD	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	143.0	144.0			
NR	SAMPLES	26	5.4	50	15	18	18	20	45	7.7	33	31	18	. 23	30	55	20	48	56	31	35	25	16	14	45	18	
AGE	(MONTHS)	97.0	98.0	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	0.911	117.0	118.0	115.0	120.0	121.0	
NA	SAMPLES	77	57	71	13	6	45	18	36	17	21	63	47	39	77	18	69	101	75	85	99	96	69	3	45	30	
AGE	(MONTHS)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	91.0	82.0	83.0	84.0	85.0	0.99	47.0	88.0	89.0	90.06	0.16	0.76	43.0	0.46	95.0	96.0	

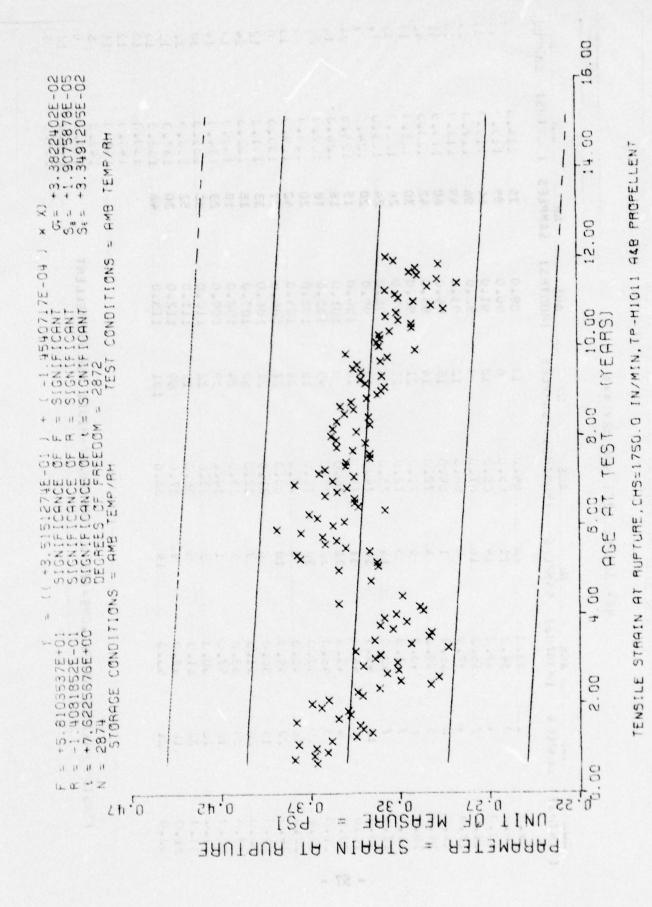
TENSILE STRAIN AT MAX STRESS, CHS=1750.0 IN/MIN, TP-HIJII AEB PROPELLENT



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Samples (Months) Samp	inc	1.45	ALL	Nic .	TOTAL			****	· · · · ·	***
1 33.7	151	SA 4PLES	(81)4[45)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(SHJMCH)	SAMPLE.
2 34.2 11 65.0 6 90.0 85 111 2 35.0 14 66.0 12 92.0 92.0 3 36.0 12 92.0 95.0 49 110 3 36.0 15 95.0 40 110 3 50.0 4 70.0 15 95.0 60 110 3 6.0 10 14 72.0 12 95.0 40 110 44.0 5 71.0 21 95.0 124 10 44.0 31 75.0 12 14 95.0 12 10 44.0 31 75.0 12 10 44.0 31 75.0 12 10 60.0 12 11 75.0 12 12 55.0 13 13 75.0 12 14 75.0 12 15 105.0 13 16 105.0 12 17 10 10 10 10 18 10.0 12 18 10.0 13	-	•	13.1	77	64.0	13	39.0	75	114.0	
2 36.0 14 66.0 12 93.0 66.0 96.0 12 93.0 66.0 12 93.0 69.0 96.0 12 93.0 69.0 96.0 12 93.0 69.0 96.0 12 93.0 69.0 96.0 12 93.0 69.0 96.0 12 93.0 69.0 96.0 12 95.0 60.0 30.0 12 95.0 60.0 30.0 12 95.0 60.0 30.0 12 95.0 60.0 30.0 12 95.0 60.0 30.0 12 95.0 60.0 30.0 12 95.0	-,	~	34.0	11	6.50	9	90.06	95	11.	
2 36.3 16 67.0 9 92.0 96.0 49.0 49.0 66.0 12 99.0 49.0 49.0 12 99.0 49.0 49.0 12 99.0 49.0 49.0 12 99.0 49.0 40.0 12 99.0 40.0 12 99.0 40.0 12 99.0 40.0 12 99.0 40.0 12 99.0 40.0 12 99.0 40.0 12 99.0 40.0 12 99.0 40.0 12 99.0 12 9			35.0	14	6.33	71	61.0	. 99	115.)	
+ 37.0 9 68.0 12 93.0 49 - 38.0 1 69.0 15 94.0 60 5 39.0 4 70.0 15 94.0 60 7 10.0 1 14 95.0 42 1 42.0 14 71.0 21 96.0 26 1 42.0 14 73.0 24 96.0 26 10 43.0 34 74.0 12 100.0 16 10 43.0 34 74.0 12 100.0 16 10 43.0 34 74.0 12 100.0 16 10 43.0 34 74.0 12 100.0 16 10 43.0 34 74.0 16.0 45 10 45.0 31 75.0 16.0 45 10 50.0 31 75.0 16.0 33 10 50.0 1 2 22.0 53 10 50.0 1 2 22.0 53 10 50.0 1 2 22.0 53 10 50.0 1 2 22.0 53 10 50.0 1 2 22.0 53 10 50.0 1 2 22.0 53 11 50.0 1 2 25.0 53 12 50.0 1 4 88.0 101 18.0 48 10 50.0 1 13.0 48 11 50.0 1 13.0 48 11 50.0 1 13.0 48 11 50.0 1 14 88.0 101 18 11 50.0 1 13.0 48 11 50.0 1 14 14 14 11 50.0 1 14 14 11 50.0 1 14 14 11 50.0 1 14 14 11 50.0 1 14 11 50.0 1 14 11 50.0 1 14 11 50.0 1 14 11 50.0 1 14 11 50.0 1 14 11 50.0 1 14 11 50.0 1 14 11 50.0 1 14 11 50.0 14 11	2	~1	36.3	16	. o.Yo	6	92.0	96	1.1.	
2	0	+	37.9	3	68.0	1.2	93.0	64	113.3	
2 39.0 4 70.0 14 95.0 42 2 10.0 5 71.0 21 96.0 30 1 42.0 14 73.0 21 96.0 36 10 45.0 14 73.0 24 96.0 26 10 45.0 34 74.0 12 99.0 26 10 45.0 31 75.0 16 100.0 16 10 45.0 31 75.0 16 100.0 16 10 45.0 31 75.0 16 100.0 16 10 45.0 31 75.0 16 103.0 20 10 57.0 10 57.0 18 10 57.0 1 6 35.0 24 10 57.0 1 6 36.0 18 11.0 57.0 1 1 34.0 29 12.0 52.0 3 69 13.0 52.0 53 14.0 88.0 101 113.0 48 13.0 52.0 52 14.0 88.0 101 113.0 48	17.0	3	133.1	1	0.69	57	0.46	09	113.0	
1.0 5 71.0 21 96.0 30 30 14.	14.0	1	39.0	4	70.0	14	95.0	42	6.6.21	4.
1	15.0	.,	40.0		71.0	21	0.96	30	1.41.3	
		,	41.0	5	72.0	21	97.0	26	1:2.1	
15 43.7 34 74.0 12 99.0 20 10 44.7 31 75.0 16 100.0 15 2 45.7 31 76.0 99.0 101.0 18 2 45.7 31 76.0 45 102.0 18 2 45.7 30 75.0 16 103.0 20 2 50.0 45.1 10 60.0 27 2 50.0 10 60.0 27 2 50.0 10 60.0 27 2 50.0 10 60.0 27 2 50.0 10 60.0 27 2 50.0 10 60.0 27 2 50.0 10 60.0 27 2 50.0 10 60.0 27 2 50.0 10 60.0 27 2 50.0 10 60.0 20 2 50.0 2 60.0 101.0 69 2 60.0 101 113.0 48	7	1	42.0	1.4	73.0	24	0.86	24	123.4	
10 44.0 31 75.0 16 100.0 15 4 45.0 31 76.0 9 101.0 18 3 40.0 32 77.0 45 102.0 18 10 77.0 10 10 10 10 10 20 45.0 10 10 10 27 20 45.0 10 10 10 27 20 51.0 1 22.0 53 107.0 18 20 51.0 1 34.0 27 21 106.0 23 22 110.0 20 23 13.0 27 24 108.0 18 25 10.0 1 84.0 39 109.0 23 26 112.0 20 27 100.0 30 28 6.0 18 111.0 52 29 112.0 20 20 20 30 20 20 30 21 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10	13.0	51	43.)	34	74.0	12	0.66	20	124.0	
# 45.0	2	0.1	44.3	31	75.0	91	100.0	15	125.3	
23 46.3 32 77.0 45 102.0 18 15 47.0 30 75.0 16 103.0 20 16 45.0 30 75.0 16 103.0 20 20 45.0 10 60.0 27 105.0 27 15 50.0 2 2 31.0 27 105.0 27 20 51.0 2 2 107.0 18 20 52.0 3 03.0 24 108.0 18 21 57.0 1 34.0 22 110.0 36 22 51.0 6 96.0 18 24 52.0 9 87.0 69 112.0 20 25 51.0 6 9 112.0 20 26 52.0 101 113.0 48			0.64	31	76.0	6	101.0	18		
15 47.0 30 76.0 16 103.0 20 15 50.0 10 60.0 27 105.0 27 15 50.0 10 60.0 27 105.0 27 15 50.0 10 60.0 27 106.0 33 24 52.0 3 63.0 24 106.0 33 15 50.0 3 63.0 24 106.0 33 16 57.0 1 34.0 39 109.0 23 17 50.0 6 86.0 18 111.0 52 18 57.0 6 9 112.0 20 24 50.0 36 25 51.0 6 86.0 18 26 52.0 110.0 36 27 50.0 69 112.0 20 28 50.0 101 113.0 48	0	~;	45.3	32	17.0	45	102.0	18	1.27.1	
15	-	The Market of the	× 41.0	30	76.0	13	103.0	20	1.1.7.	
20 4%.0 10 60.0 27 106.0 27 15 50.0 2 31.0 21 106.0 33 20 51.0 1 2 22.0 53 107.0 18 24 57.0 1 34.0 24 108.0 13 1 34.0 29 109.0 23 1 36.0 24 100.0 33 2 45.0 24 108.0 23 1 34.0 29 109.0 23 2 52 51.0 36 2 52 51.0 69 112.0 20 2 50.0 70.0 101 113.0 48	1	NAK X	(434.)	*	19.0	36.	104.0	42	1.9.1	
15 50.3 6 31.0 21 106.0 33 20 51.0 1 22.0 53 107.0 18 24 53.0 3 63.0 24 108.0 18 10 57.0 1 44.0 29 109.0 23 22 110.0 23 24 50.0 3 24 50.0 18 25 51.0 1 34.0 29 109.0 23 25 51.0 6 36.0 18 26 52 110.0 36 27 65.0 19 28 57.0 69 112.0 20 29 67.0 69 112.0 20 20 50.0 1 14 88.0 101 113.0 48		62	6.5.	01	69.0	177	105.0	27	133.3	
20 51.0 1 22.0 53 107.0 18 24 52.0 24 108.0 18 15 57.0 1 34.0 29 109.0 23 25 57.0 2 36.0 22 110.0 36 25 51.0 6 36.0 18 111.0 52 110.0 20 26 50.0 14 38.0 101 113.0 48 27.0 69 112.0 20 28 50.0 101 113.0 48	1	15	50.0	a)	31.0	12	106.0	33	131.3	
24 108.0 18 10 57.0 1 64.0 29 109.0 23 11 54.0 29 109.0 23 22 110.0 23 23 65.0 18 111.0 52 10 02.0 9 87.0 69 112.0 20 24 108.0 18 23 57.0 23 24 109.0 23 25 2 110.0 23 26 36.0 18 111.0 52 27 110.0 23 28 57.0 69 112.0 20 29 65.0 113.0 48 20 65.1 113.0 48	7	0,7	51.0	7-	32.0	.53	107.0	18		47
10. 27.0 1 34.0 23 109.0 23 109.0 23 109.0 23 100.0 30.0 30.0 30.0 30.0 30.0 30.0 30		4.7	53.0	3	03.0	2,4	108.0	18	1,000	14
22 110.0 36 22 51.0 6 86.0 15 111.0 52 10 52.0 15 111.0 52 10 52.0 9 87.0 69 112.0 20 21 55.0 14 88.0 101 113.0 48 50 51.1 113.0 48)	्रा	57.0	7	34.0	39	109.0	23	134.)	14
22 51.0 6 86.5 18 111.0 52 10 10 10 11 12.0 20 112.0 20 112.0 20 112.0 20 112.0 20 113.0 48 10 101 113.0 48 10 112.0 20 1012.0 1011 1011 1011 1011	,		0.00	2	35.0	22	110.0	36	135.3	
THE 52.0 9 87.0 69 112.0 20 2.1.55.0 14 88.0 151 113.0 48 48 50.51 113.0 10.0 10.0 10.0 10.0 10.0 10.0 10	1	7.2	01.0	03	36.3	1.5	111.0	52	1,000	75
21 55.3 14 88.0 151 113.0 48 50.5113.0 48 50.5113 648 57755.0 10/MIN, TP-HIGH A&B PROPELLENT	31.0	1.	32.3	6	87.0	69	112.0	20	137.3	17
SMAILE MAXITUM STRESS, CHS = 1750.0 IN/MIN, TP-HIGH A&B PROPELLENT	7	77	62.3	14	33.0	101	113.0	48	138.3	
SMAILE MAXITUM STRESS, CHS = 1750.0 IN/MIN, TP-HICLL AEB PROPELLENT									157.3	
SMSILE MAXITUM STRESS, CHS = 1750.0 IN/MIN, TP-HIGHT A&B PROPELLENT									140.3	
SMILLE MAKINUM STRESS, CHS = 1750.0 IN/MIN, TP-HIGH A&B PROPELLENT		*		The same was to the same of	The second second second second second	100000000000000000000000000000000000000	100000000000000000000000000000000000000		1.1.3	
CASILE MAXITUM STRESS, CHS = 1750.0 IN/MIN, TP-HIGH A&B PROPELLENT									147.3	9
The second secon	TEM			HS =	IN/MIN, TP-		PROPELLENT		1+3.1	
									1 44.	

TENSILE MAXIMUM STRESS, CHS = 1750.0 IN/MIN, TP-HICLL A&B PROPELLENT

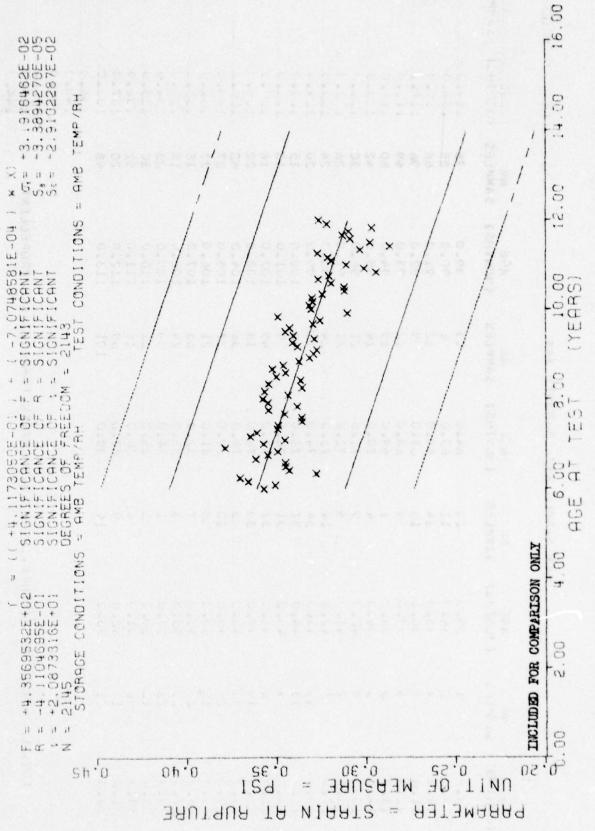


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*** SAMPLE - \$12c SUM142Y ***

7	SAMPLE	250	31	35	25	16	1,	74,	15	,	57	C.	4.7	11	1.7	-	7	J.	7.7	5,7	3	1.	3	10	1	11	1.3	1,	17	-	5	12	4
	(AC), THS)	114.3	1.15.3	:10.0	11/1	110.0	0.611	123.3	1.22.	1.22.3	1	1.1.00	1.5.3	120.1		1.5.	1.5.1	130.0	0.17			: 54.5	.135.	6.35.	1.57.0	130.0	1.35.3	.43.3			1.3.3	1.44.	1 . 6
*	SAMPLES	75	35	99	8	64	09	45	30	26	24	20	15	1.8	31	20	42	27	33	18	18	23	30	52	20	48					ENT		
	(MONTHS)	39.0	0.06	0.16	92.0	93.0	0.46	35.0	96.0	97.0	98.0	0.66	100.0	101.0	102.0	103.0	104.0	105.0	0.901	107.0	0.301	100.0	110.0	111.0	112.0	113.0					AEB PRUPELLENT		
•	SAMPLES	13	0	71	6	71	15	14	21	21	7,7	77	13	6	45	18	36	7.7	21	63	57	3.4		16	60	171					IN/MIN, TP-HIOII A		
	(ACINTHS)	64.0	65.0	66.0	67.0	59.0	0.69	70.0	71.0	72.0	(13.0	74.0	75.0	.76.0	77.0	78.0	79.0	0.03	31.0	82.0	33.0	84.0	35.0	36.3	87.0	38.0							
	SAMPLES	2.3	11	14	10	2,	1	4	0	2	14	34	31	11	3.2	30	77	07	83		3			,	ď	14					E .C. FS = 1750.0		
	(304THS)	33.0	54.3	15.0	36.3	57.0	38.0	39.3	40.0	41.0	0.74	43.0	0.44	45.0	46.0	.7.0	40.0	49.0	50.0	51.0	53.0	57.0	50.05	(* 10	0.20	63.3.					ALTACH TA		
	S 417 di Ven		٠,		~*	,+	.7	1	••	1	,	17	CT	٠	٥	16	3	07	-11	77	77		71	777	I.s	7.7					ILL STRAIN		
5	(511), (145)	A. 10.00	11.00	11.0	11.0	1	13.0	14.0	15.3	15.0	17.0	11.3	1	C.C. 5	21.5			54.3	23.0	26.1	26.3	23.03	7	30.0	11.0	34.1					TERSILL		

TERSILE STRAIN AT PUPTURE, CES-1750.0 IN/MIN, TP-HIGH AGB PROPELLENT

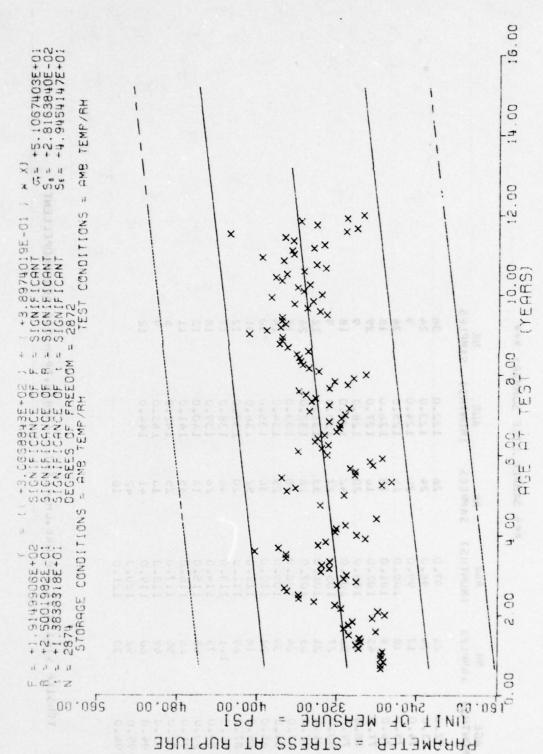


ALB PROPELLENT IN/MIN, TP-H1011 O RUP TURE, CHS=1750. 4 STRGIN ENSILE

*** SAMPLE SIZE SUMMARY ***

NR SAMPLES	36	24	6	24	81	59	6	81	6	- 77	24	18	174	30	31	12	17	18	12	11	9	0	12		
AGE (MONTHS)	122.0	123.0	124.0	1.25.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	143.0	144.0		
NR	56	54	20	15	81	91	20	74	27	33	18	18	23	30	52	07	34	56	18	35	52	òl	1+	42	18
AGE (MONTHS)	97.0	0.36	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.3	119.0	120.0	121.0
NR	77	54	12	81	6	45	18	30	27	21	63	47	39	22	18	69	101	75	65	99	96	64	3	745	30
AGE (MONTHS)	72.0	73.0	14.0	75.0	76.0	77.0	78.0	0.61	80.0	0.18	82.0	83.0	84.0	85.0	86.0	87.0	6.38	89.0	0.05	0.16	25.0	93.0	0.46	95.0	0.96

TENSILE STRAIN AT RUPTURE, CHS=1750.0 IN/MIN.TP-HI011 AGB PROPELLENT

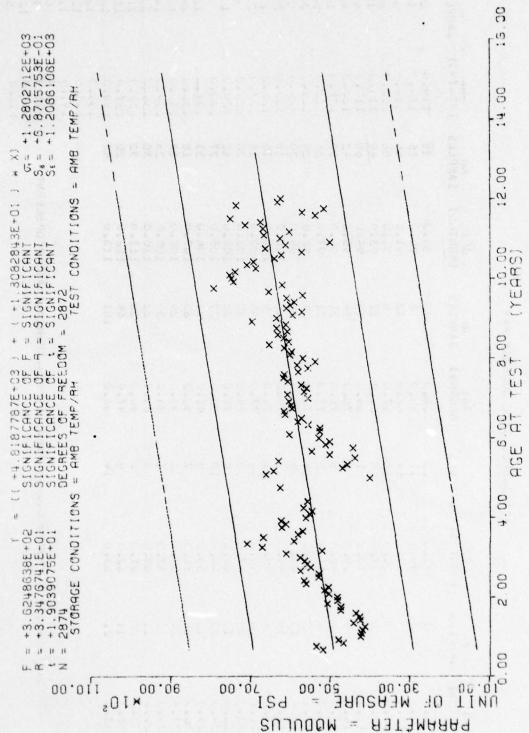


TENSILE STRESS AT AUPTURE, CHS-1750.0 IN/MIN, TP-HID11 A&B PRGPELLENT

** SAMPLE SIZE SUMMARY ***

SAMPLES	7.0	1.	55	57	1c	14	74	IÈ	37	- 24	5	2+	1.1	,,,		177	,	71	47	1.	1.	3.3	31	17	10	191	1.2	11 +	3	6	12 -
(ACMTHS)	114.0	115.3	110.0	.17.3	113.3	117.0	. 150.0	121.0	1.22.0	Lector	164.3	1.5.0	L.C.	16.10	1.55.0	129.0	1,3,3,3	131.0	156.3	13	134.3	435-0	136.3	137.0	153.0	133.3	1,13.	141.)	142.3	143.0	144.)
SAPPLES	15	. 68	99	96	64	09	42	30	26	24	20	15	1.8	18	20	42	27	33	18	1.8	23	36	52	20	. 84					ENT	
ACE (MONTHS)	89.0	0.06	91.0	92.0	63.0	94.0	95.0	0.96	97.0	0.35	0.56	100.0	101.0	102.0	102.0	104.0	105.0	106.0	107.0	106.0	109.0	110.0	111.0	112.0	113.0					AEB PROPELLENT	
SAMPLES	E.	ę	12	6	12	15	14	21	21	24	77	1.8	6	45	10	30	27	77	63	74	39	77	31	69	101					IN/MIN, TP-H1011	
AGE (MCNTHS)	64.0	65.0	66.0	67.0	60.03	6.69	70.0	71.0	72.0	73.0	74.0	75.0	70.0	77.0	78.0	15.0	30.08	81.0	32.0	33.0	34.0	85.0	36.0	37.0	36.0						
SAMPLES	57	11	1.+	J.	0,	1	4	.C	LY	14	34	10	11	32	5.0	1	10	32	7	01	1	3	0	5	14					C,CHS=1750.0	
46. (41)4[H5)	32.1		35.0	14.3	37.0	34.0	59.0	6.04	+1.0	42.3	43.1	44.0	45.0	6.04	47.0	46.0	6.65	50.0	51.3	30.00	57.3	200		05.0	63.0					AT RUPTUE	THE REST OF THE PARTY OF
	-	-1		•	+	,	1		1.	1	10	1.0			6.7	7	20	-7	77	57	**	•	7.7	1.5	2.					BILL SINESS	
4.5t.	Q+:		10.1	11.	6.5.4	13.3	14.0	15.0	10.3	11.3	15.00	15.1	707	21.3		7:1		2.5.5	26.3	0.1.		****	20.0	11.	22.0					10.15	



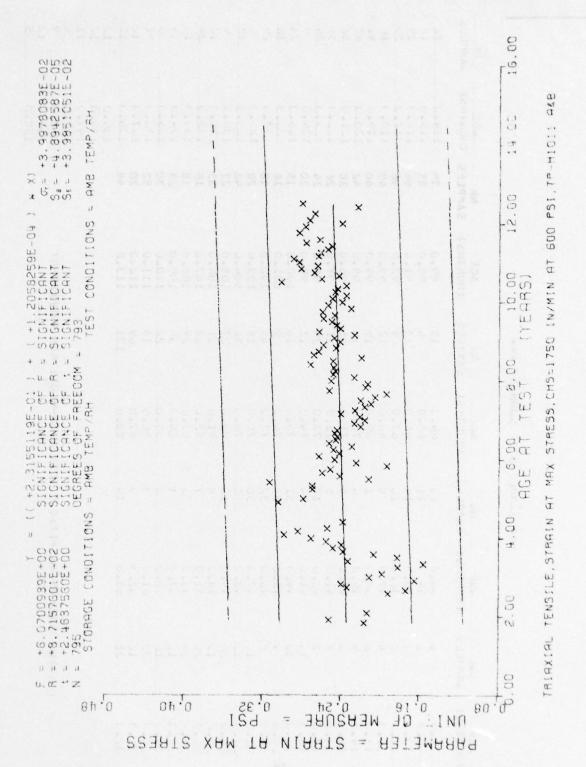


*** SAMPLE SIZE SUMMARY ***

24.4.1.5	(MONTAS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(LICM (HS)	JAMPLES
•	0.00	. 12	64.0	13	0.68	75	114.3	77
7	34.)	11	65.0	,	0.06	35	0.611	37
	35.3	14	0.99	1.2	91.0	99	110.3	35
٠,	36.3	70	0.7.0	5	92.0	95	117.3	25
4	37.0	5	68.0	12	93.0	64	118.)	lo
0	13.3	1	0.69	15	0.46	09	0.611	14,
5	39.3	4	70.0	47	95.0	45	120.0	245
-3	49.0	C	71.0	21	96.0	30	171.0	lo
7	0.14	2	72.0	17	97.0	26	1.2.	S.
1	42.0	14	73.0	57	98.0	24	1.0.1	24
17	43.0	34	74.0	1.2	66.0	20	124.0	6
1.0	.44.0	31	75.0	10	100.0	15	1.25.3	2.4
+	45.0	31	76.3	6	101.0	18	3.44.9	18
63	40.0	32	11.0	45	102.0	18	1.77.	52
51	.7.3	30	75.0	18	103.0	20	120.3	,
7	43.0	3	79.0	36	104.0	42	1.33.0	13
07	45.0	10	6.03	27	105.0	27	130.0	5
57	50.0	ນ	81.0	717	106.0	33	151.0	17
26	51.0	7	82.0	63	107.0	18	132.0	24
* 1	13.1	1	0.63	57	108.0	18	133.1	1.0
27	57.)	1	0.43	30	109.0	23	1,54.0	14
17.	0.00	3	0.50	27	110.0	30	155.3	350
77	61.3	83	86.0	1.8	111.0	52	136.)	10
10	52.)	6	87.0	60	112.0	20	137.3	71
21	03.U	14	83.0	101	113.0	48	134.0	
							1.39.0	113
							1,40.0	77
							141.3	11
							142.0	9
FRAILL YE	YOU'US, CHIS=	S. CHS=175C.0 III.	[11/M[4, TP-H1011	AEH	PROPELLENT		143.0	6
							1. 44.	13
	AND CORPORATION OF CONTRACTOR AND ADDRESS OF TAXABLE AND ADDRESS OF						0.44.7	77

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PARPMETER - STRAIN AT MAY STRESS



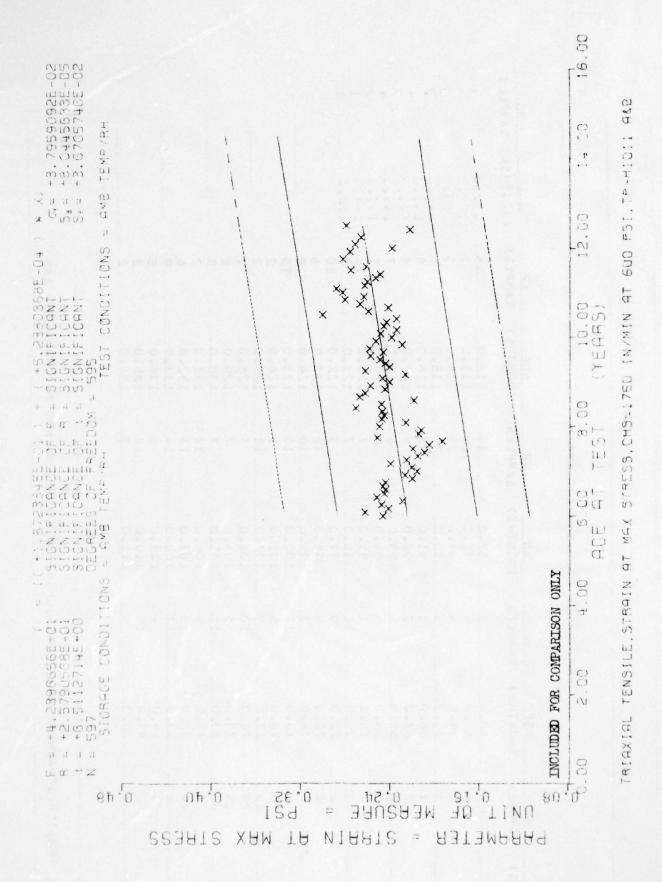
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Figure 21

*** SAMPLE SIZE SUMMARY ***

MR	SAMPLES		. ~		1	•		, -	• ^	ı —																
	(3CITHS)			0.00		145.3		145.1	11.	(152															
AK	SAMPLES	11		0	· ·	o	C	1	0	11	O)	10	9	6	15	2	7	1	80	S	C	9	6	S	7	2
AGE	(NON THS)	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0
NR	SAMPLES	14	17	52	23	13	2	. 9	0	1	7	3	12	10	01	65	70	5	1	1	12	13	14	8	12	7
AGE	(MCNTHS)	87.0	0.38	84.0	90.0	91.0	95.0	93.0	0.46	95.0	95.0	97.0	68.0	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	168.0	109.0	110.0	111.0
AK	SAMPLES	3	*	4	3	m	2	7	7	3	53	6	4	7	17	5	6	10	5	11	4	13		4	15	5
ASE	(SHINDM)	50.0	63.0	54.0	55.1	0.99	67.0	68.0	0.60	70.0	71.0	72.0	73.0	74.0	15.0	75.0	77.3	78.0	79.0	33.0	31.0	32.0	33.0	34.0	85.0	86.0
2	STAPLES	-	1		1	1	2	7	7	3	7	7	1	5	7	5	17	52	57	35	1	71	- 4,	3	2	,
ASE	(nunTHS)	24.1	0.17	25.3	Cele	32.0	33.3	34.3	15:0	36.3		39.0			42.0	43.0	44.1	45.0	46.0	47.0	48.0	0.64	53.0	51.0	53.0	59.0

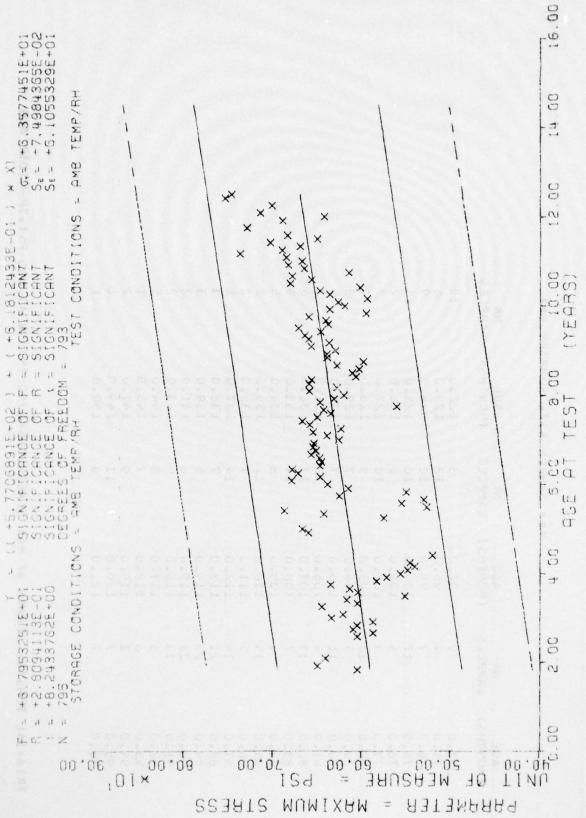
TRIAXIAL TEMSILE, STRAIN AT MAX STRESS, CHS=1750 IN/MIN AT 600 PSI, TP-HI011 ACB



SAMPLE SIZE SUMMARY

SAMPLES	10	9	6	15	7	1	7	00	2	2	9	6	5	2	2	1	3	3	. 2	2	2	1	7	1	1
(MONTHS)	122.0	123.0	124.0	125.0	120.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	141.0	143.0	144.0	145.0	147.0	149.0	150.0
SAMPLES	٣	12	10	10	00	10		7	7	12	13	14	80	12	7	14	7	2	9	6	00	1	6	11	23
(MONTHS)	97.0	98.0	0.66	100.0	101.0	102.0	1.03.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117,0	118.0	119.0	170.0	121.0
SAMPLES	6	•	,	17	5	6	10	5	11	+	13	1	4	15	5	14	17	25	28	1.1	2	0	8	1	1
(MONTHS)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	0.19	82.0	83.0	0.48	95.0	0.00	87.0	88.0	89.0	0.06	0.16	65.0	93.0	0.46	0.56	0.96

TRIAXIAL TENSILE, STRAIN AT MAX STRESS, CHS=1750 IN/MIN AT 600 PSI, TP-H1011 AEB

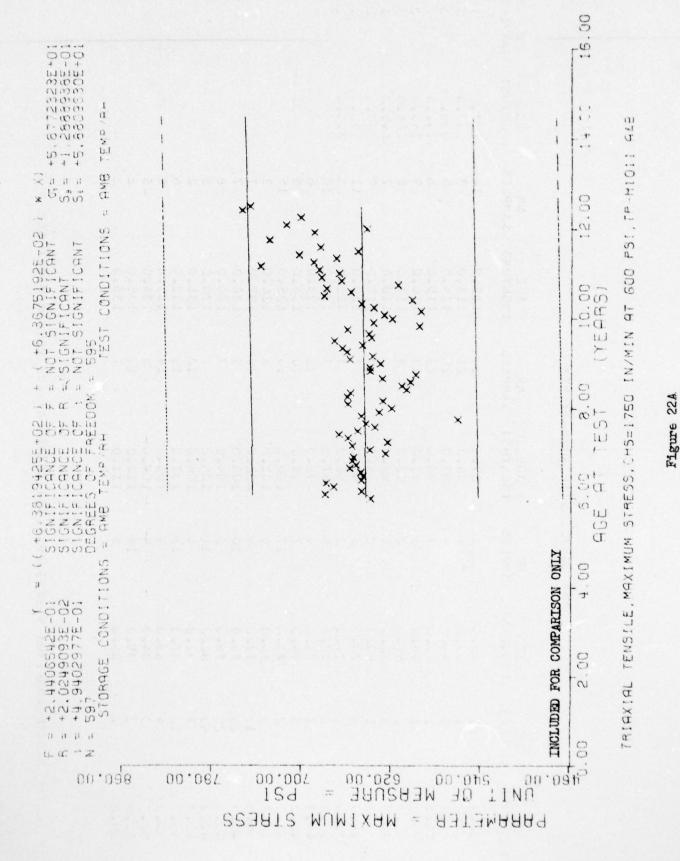


GAB PSI, TP-H1011 009 t a ZIWIZI TENSILE, MAXIMUM STRESS, CHS-1750 TRIAXIAL

*** SANPLE SIZE SUMMARY ***

SAMPLE	• •	1	~	7	-1	100	T	1		•	-											den a const			
36. (100°T4S)	1.77.	1,33.3	139.0	1.41.	143.0	144.0	145.3																		
NRSAMPLES	14		2	. 9	6	ພ	7	c	11	03	10	9	5	15	2	7	7	α	5	2	9	0	5	7	2
AGE (MONTHS)	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	153.0	134.0	135.0	136.0
NR SAMPLES	1.	21	25	23	13	5	a	t:	1	1	3	17	10	7	9	10	5	1	7	77	1	1.4	သ	1.2	7
AGE (MCNTHS)	37.5	38.0	39.0	90.0	91.0	0.76	93.0	0.46	95.0	96.0	67.0	96.0	0.66	100.0	101.0	1.32.0	103.0	104.0	105.0	1,06.0	1.17.3	108.0	109.0	110.0	1111.0
NB	7	4	4	3	7	2	2	.7	.9	7	5	+	7	1.7	n	7	10	111	11	*	7.3	1	4	15	S
AGE (*)WTHS)	0.00	0.00	64.0	0.00	60.0	57.0	50.0	69.0	70.0	71.0	72.0	13.0	74.0	75.0	10.0	71.3	78.0	7.9.0	30.3	31.0	42.3	13.3	34.0	35.0	56.0
AE SA #PLCS	7	,	۷1		7	0.1					1 * 1	. 1	1	~1	1	1,	7.7	17		1	1.	•	-1	-1	7
A3E (+, T 15.)		1.5.		71.	7	,,,,	34.0		36.3	17.		4.1.)	7 - 7 -	. 5.	. 4.4	(. + .)	4.5.1		6.14	(4)	(*, 1, *,	7		7.1	2.3.6.7

TILLEGAL RENVILLE, MANIAUM STRESS, CHS=1750 IN/MIN AT 600 PSI, TP-HIOII AEB



*** SAMPLE SIZE SUMMARY ***

N.	APLES	01	9	6	15	2	7	1	60	5	2	9	6	5	2	2	1	m	6	7	2	2	1	7		1
	(MONTHS) SAN	0.	0.1	0.	0.0	0.	0.	0.1	0.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.0	0.	0.	0.	0.	0.	0.0	0.
																									149.0	
) SAMPLES		12	01	37		10	41			1,	1.	77	3	12	7	14	-	2	•	7	0		6	11	3
AGE	(SHINDW)	97.0	98.0	99.0	100.0	101.0	102.0	103.0	104.0	105.0	100.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	
NK	SAMPLES	5	+	1	11	5	5	- 07	ī	11	,	13	1	4	15	10	14	177	25	23	1.5	Ç	,	9	1	1
465	(MONTHS)	72.0	73.6	74.0	75.0	10.01	77.0	78.0	79.0	80.0	81.0	82.0	83.0	84.0	85.0	86.0	0.70	68.0	0.68	90.06	0.16	0.26	93.0	0.46	0.36	50.0

TRIAXIAL TENSILE, MAXIMUM STRESS, CHS=1750 IN/MIN AT 600 PSI, TP-HI011 AEB

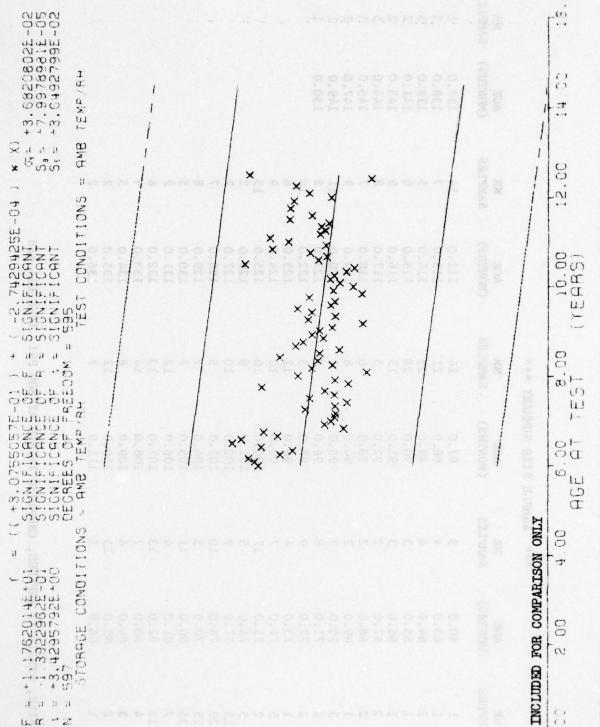
260 RUPTURE, CHS=1750 IN/MIN AT 600 PSI, TP-HIGII D TENSILE, STRGIN TRIGXIBL

Figure 23

*** SAMPLE SIZE SUMMARY ***

	NR SAMPLES	1	9	9	7	2	2	1	2	1	1															
	AGE (MONTHS)	137.0	138.0	139.0	141.0	143.0	144.0	145.0	147.0	149.0	150.0															
	NR SAMPLES	14	7	5	9	6	80	7	6	п	80	10	9	6	15	7	7	7	80	2	7	9	6	2	2	2
	AGE (MONTHS)	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0
	NR SAMPLES	14	. 21	25	28	13	2	9	80	7	7	3	12	10	10	80	10	2	7	7	12	13	14	80	12	7
77700 7770 71	AGE (MONTHS)	87.0	88.0	89.0	0.06	91.0	92.0	93.0	0.46	95.0	0.96	97.0	0.86	0.66	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0
THE COUNTY OF TH	NR SAMPLES	8	4	4	3	٣	2	2	2	e	80	6	4	7	17	2	6	10	5	11	4	13	7	4	15	5
	AGE (MONTHS)	0.09	63.0	0.49	65.0	0.99	67.0	0.89	0.69	70.0	71.0	72.0	73.0	74.0	75.0	0.97	77.0	78.0	79.0	80.0	81.0	82.0	83.0	84.0	85.0	86.0
	NR SAMPLES	1	1	2	1	1	2	2	1	3	2	2	1	2	2	2	15	29	25	35	7	12	4	3	2	1
	AGE (MONTHS)	22.0	23.0	25.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0	39.0	40.0	41.0	42.0	43.0	0.44	45.0	46.0	47.0	48.0	0.67	50.0	51.0	53.0	29.0

TRIAXIAL TENSILE, STRAIN AT RUPTURE, CHS=1750 IN/MIN AT 600 PSI, TP-H1011 A&B



PSI, TP-HIGII AKB 009 4 NIWINI TENSILE, STRRIN 97 RUPTURE, CHS=1750 AIGXIDE

Figure 23A

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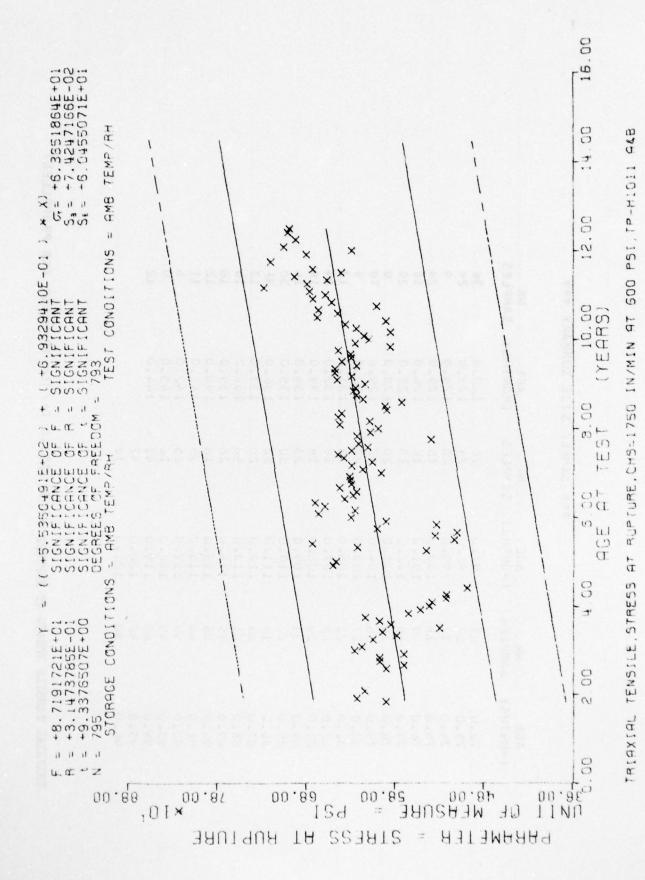
30

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*** SAMPLE SIZE SUMMARY ***

NR	SAMPLES	36	54	6	- 24	18	53	6	18	6	12	24	18	14	30	31	12	16	18	12	11	9	6	12		
AGE	(MONTHS)	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	145.0	143.0	144.0		
ž	SAMPLES	26	24	20	15	16	13	20	4.5	27	33	16	18	. 23	30	52	20	43	56	18	35	52	1,0	14	45	18
AGE	(MONTHS)	97.0	98.0	66.0	100.0	101.0	105.0	133.0	104.0	105.0	106.0	107.3	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	111.0	116.0	119.0	120.0	121.0
N. N.	SAMPLES	17	4,7	17	18	•	45	14	36	7.7	21	63	4.7	39	22	18	69	101	75	85	99	3	64	09	74	30
AGE	(MONTHS)	72.0	73.0	74.0	75.0	76.0	0.11	78.0	79.0	80.08	0.10	82.0	83.0	0.40	85.0	86.0	87.0	38.0	0.68	0.06	91.0	95.0	93.0	94.0	95.0	0.95

TRIAXIAL TENSILE STRAIN AT RUPTURE : CHS=1750.0 IN/MIN. TP-H1011 A&B PROPELLENT

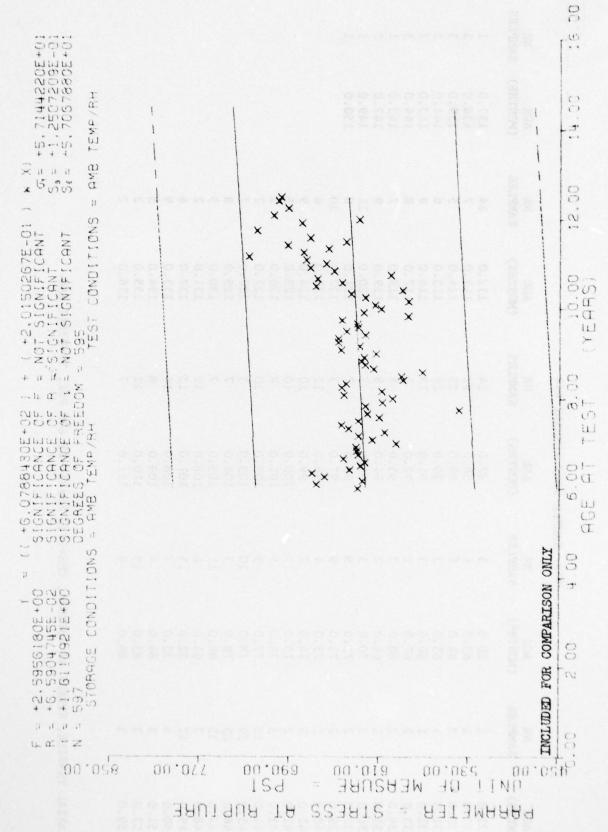


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*** SAMPLE SIZE SUMMARY ***

ACE	an N	A CF	MR	A CF	NB	A CTP	e e	AU V	9
(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(MONTHS)	SAMPLES	(WONTHS)	SAMPLES	(MONTHS)	SAMPLES
22.0	1	6.05	6	87.0	14	117.0	14	137.0	1
23.0	1	63.0	4	88.0	21	113.0	7	138.0	3
25.0	2	0.49	4	0.68	25	114.0	2	139.0	က
31.0	1	65.0	3	0.06	28	115.0	9	141.0	2
32.0	1	0.99	3	91.0	13	116.0	6	143.0	2
33.0	2	0.79	2	92.0	2	117.0	∞	144.0	2
34.0	2	0.89	2	93.0	9	118.0	7	145.0	1
35.0	1	0.69	2	94.0	80	119.0	6	147.0	2
36.0	3	70.0	3	95.0	7	120.0	11	149.0	1
37.0	2	71.0	80	0.96	7	121.0	00	150.0	1
39.0	2	72.0	6	97.0	3	122.0	10		
40.0	1	73.0	7	0.86	12	123.0	9		
41.0	10	74.0	7	0.66	10	124.0	6		
42.0	2	75.0	17	100.0	10	125.0	15		
43.0	5	76.0	2	101.0	&	126.0	2		
44.0	15	77.0	6	102.0	10	127.0	7		
45.0	29	78.0	10	103.0	2	128.0	7		
0.95	25	79.0	2	104.0	7	129.0	∞		
47.0	35	80.0	11	105.0	7	130.0	5		
48.0	7	81.0	4	106.0	12	131.0	2		
0.67	12	82.0	13	107.0	13	132.0	9		
50.0	4	83.0	7	108.0	16	133.0	6		
51.0	3	84.0	4	109.0	00	134.0	5		
53.0	2	85.0	15	110.0	12	135.0	2		
29.0	1	0.98	2	111.0	7	136.0	2		

TRIAXIAL TENSILE, STRESS AT RUPTURE, CHS=1750 IN/MIN AT 600 PSI, TP-H1011 A&B



D & D PSI, IP-H1011 009 T NIWINI RUPTURE, CHS=1750 BH STRESS TENSILE, TRIBXIAL

*** SAMPLE SIZE SUMMARY ***

N.R.	SAMPLES	36	54	6	24	81	53	6	18	6	12	54	18	14	30	31	175	91	18	17	11	9	5	12		
AGE	(MONTHS)	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	1,42.0	143.0	144.0		
SA	SAMPLES	25	24	20	15	18	18	20	42	27	33	18	18	57	30	52	20	48	26	81	35	57	16	41	45	18
AGE	(MUNTHS)	0.79	98.0	0.66	100.0	101.0	0.701	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121.0
AIK	SAMPLES	21	54	71	13	6	45	18	36	27	77	63	24	39	22	18	69	101	75	85	99	95	64	09	74	30
AGE	(MONTHS)	0.77	73.0	74.0	75.0	76.0	77.0	78.0	19.0	80.0	81.0	84.0	63.0	84.0	85.0	86.0	87.0	88.0	89.0	6.06	0.16	92.0	93.0	0.46	95.0	0.96

TRIAXIAL TENSILE STRESS AT RUPTURE, CHS-1750.0 IN/MIN, TP-HI011 AEB PROPELLENT